The Mining Journal
AND ATMOSPHERIC RAILWAY GAZETTE,

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 596.—Vol. XVII. LONDON, SATURDAY, JANUARY 23, 1847. [Price 6d.

SPARE MINING MATERIALS—TWO DRAFT ENGINES, 24 inches cylinder each, and OTHER SPARE MINING MATERIALS, FOR SALE. TO BE SOLD, BY AUCTION, in February next, unless previously disposed of by private contract, the following SPARE MINING MATERIALS—viz.:

TWO STEAM DRAFT ENGINES, 24 inches cylinder each.
PUMPS, of various sizes, from 5 to 9 inches diameter—6 and 9 ft. long.
Windbores, poles, and pole cases.
H-pieces, and flat and round rods, &c. &c.

May be seen at any time, on application to the agents on the mine.
Bullerswidden, St. Just, Jan. 8, 1847. RICHARD V. DAVY, Purser. 1

UPSET PRICE REDUCED TO £2000.

MINERALS FOR SALE.—TO BE SOLD, BY PUBLIC ROUP, within the Saracen's Head Inn, PAISLEY, on Thursday, the 11th day of February next, at One o'clock afternoon, if not previously disposed of by private bargain,

1. The COAL, LIME, IRONSTONE, and whole other MINERALS and METALS, in the lands of LITTLE CORSEFORD, as belonging to and possessed by Mr. Thos. Neilson, extending to 43 Scotch acres, or thereby, lying between the River Black Cart and the road leading from Paisley to Beith.

2. The COAL and LIME in the lands of HOLMS and BLACKDYKE, lying immediately opposite Little Corseford, on the south side of the road from Paisley to Beith. These minerals were wrought to a considerable extent many years ago, and the remainder is estimated to extend to about 50 acres.

3. The HOUSE and GARDEN, called SPEATSTON ANGLE, presently occupied by John Ramsay. 2

These minerals are valuable, the lands being known to contain coal, lime, and ironstone, which are understood to be of a good quality, and in beds of considerable thickness. The Glasgow, Paisley, Kilmarnock, and Ayr Railway passes through Little Corseford, and the turnpike road divides it and Holms and Blackdyke. The property lies about four miles from Paisley, and in the near neighbourhood of the populous town of Johnstone.

The manager at Corseford Lime-works will show the boundaries, and afford other local information; and for further particulars, application may be made to Messrs. Wylie, Rodger, and M'Innes, writers in Paisley, who are in possession of the title deeds and articles of sale, and a report and valuation, by Mr. Geddes, mining engineer.
Paisley, Jan. 8, 1847. WILLIAM HART, Auctioneer.

PONTYPOOL, MONMOUTHSHIRE.—TO BE LET, a valuable TRACT of MINERAL PROPERTY, known by the name GRAIG DDU, and situate in the immediate vicinity of the extensive iron-works of Pentwyn and Aberaychas. This property comprises the whole of the SEAMS, both of COAL and IRON ORE, employed in the manufacture of iron, in the South Wales district, and would form, in conjunction with some other smaller properties adjoining to it, and which may likewise be secured upon advantageous terms, a desirable SITE for the establishment of an IRON-WORK or COLLIERY. 3

The whole of the COAL SEAMS are well adapted for STEAM-PACKET PURPOSES; and are believed to be fully equal, in quality, to those worked so extensively at Risca, by Messrs. Russell and Co. The Graig Ddu property is not more than a mile distant from the Monmouthshire Canal, with which it is already connected by a tramroad; and the Cwm Frwd ore branch of the Newport and Pontypool Railway is also proposed to be extended to within a short distance of it. The total distance from Newport, the shipping port, is about 11 miles only.

Any parties who may be desirous of taking those minerals, will be treated with upon liberal terms; and any further information relative thereto, may be obtained on application, at Pontypool, to Messrs. Llewellin and Nephew, mining and civil engineers; or to Mr. Charles J. Parkes, Neutaland Cottage; in London, to Messrs. Adam Murray and Sons, land and mineral agents, 35, Craven-street, Strand.

WELSH SMOKELESS COAL.—TO BE LET, a valuable TRACT of MINERAL PROPERTY, situate at ABERDARE, Glamorganshire, and known as the BLAENAMAN VAWR ESTATE. It contains the whole of the strata, both of coal and ironstone, common to that district, including the SEAM of SMOKELESS COAL, so well known as POWELL'S DUFFRYN, and which is now held in high repute for STEAM-PACKET and other purposes. The property is 460 acres in extent—is situated within a short distance of the recently constructed Aberdare Railway, and the coal can be won at a moderate depth. 4

Further particulars may be obtained on application to Messrs. Llewellin and Nephew, mining and civil engineers, Pontypool, Monmouthshire.

STONE-COAL CULM COLLIERY.—TO BE LET, all the COAL and CULM under 500 acres, more or less, situated within 300 yards of the Swansea Canal, half a mile of the intended Swansea Vale Railway, and 10 miles from the port of Swansea. There are two veins now open, with a capital roof, and workable by level.

Application to be made to Mr. J. Jackson Price, solicitor; or Mr. T. S. Strick, Swansea.
The tolls on the Swansea Canal have been reduced from 1d. to 4d. per ton per mile.

STONE-COAL CULM COLLIERY.—TO BE LET, all the COAL, CULM, IRONSTONE, and FIRE-CLAY, under 300 acres, more or less, situated within one mile of the Swansea Canal, 1¼ mile of the intended Swansea Vale Railway, and 10 miles from the port of Swansea. There are several veins now opened, with a capital roof, and workable by level. 6

Applications to be made to Mr. J. Jackson Price, solicitor; or Mr. T. S. Strick, Swansea.

STEAM-PACKET COAL.—TO BE LET, about TWO HUNDRED ACRES of STEAM COAL, situated within 30 yards of the Swansea Canal, half a mile of the Swansea Vale Railway, and six miles from the shipping port of Swansea.—Application to be made to Mr. T. S. Strick, Swansea. 7

STEAM COAL—WITHOUT SMOKE, as per experiments made at her Majesty's Dockyard, Woolwich.
CAMERON'S COALBROOK STEAM COAL, AND SWANSEA AND LOUGHOR RAILWAY COMPANY.—(Completely Registered and Incorporated.) 8
OFFICES—2, MOORGATE-STREET, LONDON.

The directors are now prepared to supply steam ship companies, manufacturers, shippers, and others, with the company's steam coal, either at the company's wharf at Swansea, or in London. A statement, showing by comparative trial the superiority of this coal for steam purposes over every other, and a scale of prices, may be had on application at the company's offices here, or at their wharf at Swansea.—March 16, 1846.

IBERIAN SILVER-LEAD ORE COMPANY—Established for SMELTING, on an extensive scale, the rich SILVER-LEAD ORES of ALMAGRERA, in SPAIN, where the company have two large establishments, about to be worked, with powerful machinery, and on a new refining process. 9

The large profits to be realised by the company, enable the directors to guarantee a minimum dividend of 20 per cent., payable in half-yearly dividends of 10 per cent. each, upon 12,000 reserved shares, which are now offered to the public at 12s. 6d. per share, free from further calls; the guarantee will last as long as any portion of the 12s. 6d. per share remains to be repaid to the shareholders, who will thus soon find themselves proprietors of the said shares, with a reimbursed capital.

Applications for prospectuses and shares at the company's temporary offices, 6, Bank Chambers; and at Messrs. L. M. Simon and Son, stock and sharebrokers, 7, Warnford-court, Throgmorton-street.
Bankers of the Company—Messrs. Septe, Banbury, Musprati, and Co., 77, Lombard-street.

UNITED STATES MINES.

COPPER ORE, from the best localities, as Grey, Black Oxide, and Sulphuret.
COBALT OXIDE, yielding from 5 to 20 per cent.
CHROME, yielding from 30 to 47 per cent.
MANGANESE, yielding from 75 to 90 per cent. 10
LEAD ORE, of the best quality.
ZINC, in form of Blende and Calamine.
Likewise, SOAP STONE, WHITE VITREOUS FELSPAR, BLACK LEAD, PURE WHITE LEAD, MICA, in small and large sheets.

THE ABOVE NATURAL PRODUCTIONS may be obtained in any quantity, and on the most reasonable terms, by applying to
DR. LEWIS FEUCHTWANGER, New York City.

NOTICE TO THE MANAGERS OF MINING COMPANIES, SMELTING WORKS, &c.

MR. MITCHELL, (late Mitchell and Field) begs to announce, that ASSAYS and ANALYSES of all descriptions of ORES, MINERALS, and FURNACE PRODUCTS, are conducted at his LABORATORY, 23, HAWLEY-ROAD, KENTISH TOWN, to which direction all communications are to be addressed. 11
N.B.—Instruction in all branches of assaying and mineral analysis as usual.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."
Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall. 12

TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE for MACHINERY and AXLES of every description.—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public.
References to scientific and practical men can be given, and testimonials shown of the great excellence.—Samples forwarded on application at the manufactory, Green-street, Farringdon-street, Blackfriars-road, London. 13

TO MINE AGENTS, MINE SURVEYORS, &c.— W. WILTON,
MATHEMATICAL, PHILOSOPHICAL, AND OPTICAL INSTRUMENT MAKER,
ST. DAY, CORNWALL,

Begs to call the attention of MINE AGENTS and SURVEYORS to his MINER'S THEODOLITE, and other IMPROVED INSTRUMENTS, adapted to MINE SURVEYING; and to assure them, that, from many years' constant application of his energies in one of the most active mining districts to this particular branch of mathematical instrument making, he flatters himself he is able to furnish instruments, equal in point of accuracy and workmanship, and superior as regards adaptation to the wants of the miner, to those supplied by almost any other house. 14

*** A descriptive price list sent free per post, on application.

TO RAILWAY CONTRACTORS, COALOWNERS, MINERS, AND OTHER PARTIES USING LONG RANGES OF PIPING.
CHARLES MACINTOSH & CO., 15
SOLE MANUFACTURERS OF THE PATENT VULCANISED INDIA RUBBER WASHERS, of any description or figure, for Joints in Steam and Water Pipes.

C. M. & Co. can confidently recommend the washers, having received from engineers and others, who have used them, strong testimonials in their favour. These washers are easily applied to pipes of every description, and of any bevil; and any unevenness on the surface of the flanges, instead of being objectionable, as in the ordinary mode of making joints, is, in the case of the Vulcanised India Rubber Joints, a positive advantage, especially where great pressure is used. These joints will sustain no injury from violent tremor in pumping, or otherwise.—Birmingham, Jan. 20, 1847.

IMPORTANT TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

Messrs. W. & C. MATHER beg to call the attention of the ABOVE PARTIES to their IMPROVED PATENT ELASTIC METALLIC PISTONS. 16
The PRINCIPAL FEATURE and ADVANTAGE of THIS IMPROVEMENT is

1. Its great ELASTICITY and SELF-ADJUSTING PROPERTIES, which enable it to yield to any inaccuracy of the cylinder, whether oval or taper, and to move with the least possible friction.
2. Its extreme SIMPLICITY and LIGHTNESS, consisting of only two pieces of metal, having the vertical and lateral pressure in due and proper proportion, independent of each other.
3. It takes the LEAST possible SPACE, and is well adapted for air and water-pumps, as it allows of a larger water way.

Messrs. W. & C. MATHER feel confident that it is the BEST ELASTIC METALLIC PACKING yet known, for the above reasons.
Models may be seen at the Salford Iron-Works, Manchester; at W. Barker's, engineer, Newton-Moor; and also at J. Mather's, engineer, Beaufort-street, Chelsea, London.

PANTDRAINIOG QUARRY SLATE COMPANY, Bangor.
(PROVISIONALLY REGISTERED.)
Capital £40,000, in 2000 shares, of £20 each.—Deposit £2 10s. per share. 17
Prospectuses and every information may be obtained, and specimens of the slates seen, at the temporary office, No. 19, Essex-street, Strand; at Messrs. Richardson, Smith, and Sadler's, 28, Golden-square; and at the following stock and share brokers:—Mr. H. J. Balding, 27, Tokenhouse-yard, City; and Mr. Thomas Norton Brown, 17, Throgmorton-street—to all of whom applications for shares may be made.
19, Essex-street, Strand, Jan. 23, 1847. J. H. MURCHISON, Sec. pro tem.

METROPOLITAN IRON AND STEEL COMPANY.
(Provisionally Registered, pursuant to 7 and 8 Vic., c. 110.)
Capital £300,000, in 30,000 shares of £10 each.—Deposit 1s. per share. 18

MANAGING DIRECTORS.
CHARLES CHILTON, Esq., Steam Mills, Old-street, London
THOMAS KEARSLEY, Esq., merchant, Southampton-buildings
GEORGE SCOTT, Esq., engineer, Bouverie-street
HANNIBAL GARDNER, Esq., Castle-street, Holborn.
(With power to add to their number.)

BANKERS.
London and Westminster Banking Company.
SOLICITORS.
Goddard and Eyre, No. 101, Wood-street, Cheapside.
ARCHITECT AND SURVEYOR.
William Sawter, Esq., No. 16, Union-place, Lambeth-road.
SECRETARY—James Evans.

A company has been formed for the MANUFACTURE OF IRON AND STEEL (from cast, scrap, and all descriptions of old refuse iron), which shall be of a superior quality to any hitherto produced in the mining districts.—The objects of the company are fully explained in the prospectus.

Applications for shares, in the subjoined form, to be made to Messrs. Prichett and Mandy, sharebrokers, No. 68, Broad-street; Messrs. W. Busfield and Co., sharebrokers, 17, Change-alley, Cornhill; the Western Railway Exchange, 127, Regent-street; Messrs. W. and H. Davies, sharebrokers, Liverpool; Mr. Joseph Ferrybough, sharebroker, Manchester; Messrs. Timmins and Lane, sharebrokers, Birmingham; Mr. James Renton, sharebroker, Edinburgh; Mr. R. C. Meikle, sharebroker, Glasgow; Mr. John Cooper, sharebroker, Leeds; Messrs. Goddard and Eyre, solicitors to the company, 101, Wood-street, Cheapside, or to the secretary, at the offices, 30, Moorgate-street.

METROPOLITAN IRON AND STEEL COMPANY.
NOTICE OF ALLOTMENT.
NO APPLICATIONS for SHARES in the above-named company will be RECEIVED after WEDNESDAY, the 27th inst., when the allotment of the shares will be proceeded with immediately. JAMES EVANS, Secretary. 19
Offices, No. 30, Moorgate-street.

HEMP AND FLAX MANUFACTURING COMPANY—
(Mr. DONLAN'S PROCESS).
Provisionally Registered, pursuant to the statute 7 and 8 Vic., c. 110.
To be Incorporated, limiting the liability to the amount of their subscription.
PRESENT MANUFACTURING ESTABLISHMENT OF THE COMPANY,
RUGELEY, STAFFORDSHIRE.
Capital £60,000, in 12,000 shares, of £5 each—Deposit, pursuant to the statute, 6d. p. share.

TRUSTEES FOR THE INVENTOR.
The Right Hon. VISCOUNT INGESTRE, M.P.—Sir GEORGE SINCLAIR, Bart.
TRUSTEES FOR THE CAPITAL STOCK OF THE COMPANY.
The Right Hon. Viscount INGESTRE, M.P., Ingestre Hall, Staffordshire
Colonel Sir WM. R. CLAYTON, Bart., 79, Gloucester-place, Portman-square
JOHN MEE MATTHEW, Esq., F.S.A., Gray's Inn
ALFRED BRODIE, Esq., 4, Cavendish-square 20
C. H. ROGERS HARRISON, Esq., Southampton-street.
SECRETARY—Henry Prater, Esq., M.A., Middle Temple.
BANKERS—London Joint-Stock Bank, Princes-street, London, and Pall-mall, Westminster.
SOLICITOR—John Thomas Sanders, Esq., 31, Ely-place, Holborn.

The establishment of this company was formed at Rugeley, in Staffordshire, some years ago, for preparing the fibre of New Zealand, Italian, Russian, Dutch, and Colonial, as well as Irish and other home-grown hemp and flax, and all fibrous substances, for manufacturing purposes, according to peculiar processes, chymical as well as mechanical, applied to them by Mr. Donlan—and for working up those fibres, particularly New Zealand flax, into textile fabrics. Mr. Donlan and his friends, however, have found it impossible to obtain from New Zealand supplies of the raw material in any quantities; accordingly, they have determined to devote the processes to the manufacture of European hemp and flax.

As far as this manufacture has proceeded, it has met with all the success which its best friends could have desired—the fabrics being proved to be impervious to damp and mildew—proof against heating and premature decay—perfectly flexible in the hardest frost, and not subject to attacks by vermin, and has stood the test of 15 years' trial.

The factory is in profitable operation, and the accounts may be inspected at the offices of the company, where also samples of the different fabrics are on view.

The necessary deed will be forthwith prepared for the signature of the shareholders.

For particulars, prospectuses, and forms of applications for shares, apply at the offices of the company, 10, Coleman-street; to J. T. Sanders, Esq., 31, Ely-place, Holborn, the solicitor to the company; and to Josiah Bates and Co., brokers, Founders'-hall-court, Lothbury.

JOHN SIMPSON,
25 Moorgate-street, and 1, Coleman-street-buildings.

ELECTRO-MAGNETIC TELEGRAPH (GAMBLE and NOTT'S PATENT).
PATRONISED BY H.R.H. PRINCE ALBERT, the LORDS OF THE ADMIRALTY, &c.

The PATENTEES beg to inform all RAILWAY COMPANIES, that they are ready to TREAT with them for the ERECTION of the TELEGRAPH, on any length of railway, on the most reasonable terms. 21

This instrument, from its simplicity of construction and certainty of action, is, after the most severe test, proved to be the most useful and efficient instrument of the kind ever yet invented, as reported on by Dr. FARADAY, Captain BRANDRETH, Professor BRANDE, Dr BACHHOFFNER, &c.—and, in fact, all the science of the country.

It may be seen in daily operation on the London and North-Western Railway, where it is in practical use, between Blisworth and Northampton stations; also at the Telegraph Office, No. 2, Royal Exchange-buildings, where all particulars may be obtained, and the report seen.

OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN.
J. MURDOCH (successor and late assistant to Mr. Hebert)
Informs INVENTORS and PATENTEES, that, at his OFFICE, they can obtain REFERENCE TO A CLASSIFIED LIST OF PATENTS, 22
(THE ONLY ONE EXTANT), which shows at one view all the Patents ever granted for any particular object, whereby they may save much trouble and expense, and procure information not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED, and USEFUL and ORNAMENTAL DESIGNS REGISTERED.
SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICATIONS furnished on moderate terms.
FINISHED and WORKING DRAWINGS executed with accuracy and despatch.

JONATHAN DAVEY, MINE AGENT, SURVEYOR, AND SHAREBROKER. 23
MATTHEW-STREET, TAVISTOCK.
Mines surveyed, inspected, and reported on, at the shortest notice; plans, sections, and dialling performed, by day or contract.

MESSRS. R. CLARK & CO. beg to acquaint their friends and the public in general, that they have taken OFFICES as below, where they intend to carry on BUSINESS as STOCK, SHARE, and MINING AGENTS; relying with confidence upon the method adopted by them for conducting all business entrusted to their agency, Messrs. R. C. & Co. solicit a continuance of that support it will be, by strictest attention to all orders, their endeavour to deserve.
N.B.—Money advanced upon scrip and other securities. 24
3, Austinfriars, Broad-street, Oct. 17, 1846.

MINING PROPERTY.—CAPITALISTS who are disposed to INVEST in CORNISH and FOREIGN MINES, will find the present opportunity very favourable for so doing. From large sums having been lately diverted from such investments for railway speculations, standard mines are now selling at prices that will pay the purchaser 20 per cent. per annum for his outlay. There are also other mines that are on the eve of paying dividends, which can be recommended with confidence. 25
Applications to be made to Mr. JAMES HERRON, mining agent, No. 3, Adam's-court, Broad-street, London.

MR. T. P. THOMAS is a SELLER in Barristown, Andrew and Nangiles, Botallack, Caradon Consols, Charlestown, Comfort, Condurrow, Gwinear, Consols, Cleveland, Herodsfoot, Tinz-Tang, and United Mines, South Francis, and South Basset: and is a BUYER of Alfred Consols, Perran Wheal Virgin, Wheal Calestick, North Roskear, Trelawney, Trehane, Wheal Bucketts, South Tolgus, & North Tuck. 26
18, *THREADNEEDLE-STREET, LONDON.*

WILLIAM H. SMITH, MINING SHARE AGENT, 10, *WARNFORD-COURT, THROGMORTON-STREET,* has SHARES FOR SALE in the following MINES—viz.:

WHEAL BLENCOWE,	WEST SHEPHERD,
WHEAL LOUISA,	EAST WHEAL FORTUNE,
WHEAL MARY PENTUAN,	VICTORIA TIN MINING COMPANY.

*** Every information will be afforded on application. 27

MINING OFFICES, 1, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.

WATSON AND CUELL, MINE AGENTS. 28
N.B.—STATISTICAL INFORMATION furnished (on application) to SHAREHOLDERS in MINES in Cornwall, Devon, Scotland, Ireland, Wales, and Spain.

MR. R. TREDINNICK, MINING AGENT AND DEALER IN EVERY DESCRIPTION OF SHARES. 29
THREE KING'S COURT, LOMBARD-STREET, LONDON.

WILLIAM TRENERY, DEALER IN RAILWAY AND MINING SHARES.—ESTABLISHED TEN YEARS.
OFFICES, No. 50, THREADNEEDLE-STREET, LONDON. 30

JOHN HARVEY, SHAREBROKER AND ASSAYER, *LISKEARD, CORNWALL.* 31

JAMES LANE, MINING SHAREBROKER, 75, *OLD BROAD-STREET, LONDON.* 32

MESSRS. LINTHORNE, JONES, AND CO., STOCK, MINING, AND SHARE AGENTS.
*** Every information will be afforded as to the markets and prices of the above, by application (post paid) at their offices. 33
48, *THREADNEEDLE-STREET, LONDON.*

MESSRS. J. PAINTER AND CO, SHAREBROKERS, MINING AND GENERAL AGENTS,
25, *CASTLE-STREET, LIVERPOOL.*
AFFORD EVERY INFORMATION as to the STATE of the MARKETS, PRICES, upon application. 34

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS. 35

CONSOLIDATED COPPER MINES OF COBRE ASSO- CIATION.—Notice is hereby given, that a HALF-YEARLY GENERAL MEETING of the proprietors of this association will be HELD, in conformity with the deed of settlement, at the office of the company, No. 26, Austinfriars, on Monday, the 25th day of January inst., at One o'clock precisely; on that day two directors—viz., Russell Ellice and Walter Shairp, Esqs., and one auditor, Francis Mills, Esq., will go out of office by rotation, but are immediately re-eligible, and are candidates for re-election.

It is necessary that persons intending to offer themselves as candidates for the direction and auditorship, should leave notice of such their intention with the secretary, at the office of the company, 26, Austinfriars, at least 14 clear days before the day of election.
By order of the court of directors,
26, Austinfriars, Jan. 6, 1847. WM. LECKIE, Secretary. 36

GREAT SOUTH TOLGUS COPPER AND TIN MINING COMPANY.—Notice is hereby given, that the allotment of shares in this company having been made, NO FURTHER APPLICATIONS can be received.
By order of the provisional directors. 37
JOHN PAINTER & CO., Secretaries pro tem.
Dated Company's Offices, 25, Castle-street, Liverpool, Jan. 19, 1847.

GREAT SOUTH TOLGUS COPPER AND TIN MINING COMPANY.—Notice is hereby given, that the nomination of the provisional directors has taken place, and that the FIRST GENERAL MEETING of the proprietors will be HELD at the offices of the company, 25, Castle-street, Liverpool, on Monday, the 8th day of February next, at One o'clock in the afternoon, for the purpose of confirming, or otherwise, the nomination of the directors; and for the transaction of such general business as may be necessary to the commencement of active operations. The directors being in treaty for a steam-engine, all shareholders who have not yet paid their deposits are requested immediately to do so.

ROBERT TAYLOR,
FREDK. A. TAMPLIN, } Provisional directors.
GEORGE WOOD, 38
JOHN PAINTER & CO., Secretaries pro tem.
Dated Company's Offices, 25, Castle-street, Liverpool, Jan. 21, 1847.

"INDUSTRY—ECONOMY—PERSEVERANCE."

MINING COMPANY OF IRELAND.—The board of direc- tors of the MINING COMPANY OF IRELAND hereby give Notice, that a DIVIDEND, for the half-year ending 1st December last, at the rate of 7 per cent. per annum, upon the company's deposited capital stock, will be PAYABLE on and after the 1st of February next, at the company's office, 30, Lower Ormond-quay, from Ten to Two o'clock.
The books for transfer will be closed from the 23th inst. to the 1st February. 39
Dublin, Jan. 18, 1847. By order, RICHARD PURDY, Secretary.

TAMAR SILVER-LEAD MINING COMPANY.
SMELTING DEPARTMENT.
Notice is hereby given, that a SECOND PAYMENT of TWENTY-FIVE PER CENT. of the subscribed capital of this company, and a SECOND PAYMENT of TWENTY-FIVE PER CENT. of the bonus, will be MADE on Saturday, the 30th inst., and following Wednesdays, between the hours of Twelve and Four. 40
The interest of 5 per cent. on the above 25 per cent. subscribed capital will cease on the 30th inst.—The debentures must be left at the office of the company three clear days, to be marked.—44, Finsbury-square, Jan. 21, 1847.

UNITED HILLS MINE COMPANY.—Notice is hereby given, that the scripholders of this company, having already taken new shares, pursuant to the resolutions of the Special General Meeting of the 7th day of January inst., who INTEND to exercise their option of TAKING any of the NEW SHARES still undisposed of, must signify such their intention, with the number of shares they propose to take, and pay the sum of £1 for each such new share, at the office of this company, No. 5 Adam's-court, Broad-street, on or before the 28th day of January inst., otherwise they will forfeit their right to such new shares. The new shares undisposed of are distributable *pro rata* among the shareholders applying. By order of the board,
January 21, 1847. JAMES SMITH, Secretary. 41

STEAM TO INDIA VIA EGYPT, MALTA, ITALY, ALEXANDRIA, AND THE PENINSULAR PORTS.
PASSAGE TO BOMBAY, MADRAS, AND CALCUTTA.
The Peninsular and Oriental Steam Navigation Company BOOK PASSENGERS for CEYLON, MADRAS, and CALCUTTA direct, by steamers leaving Southampton on the 20th, and for Alexandria, *en route* to Bombay, on the 1st of every month.
A steamer from Southampton leaves the 1st and 20th of every month for Malta, where are steamers to Naples, Genoa, Civeta Vecchia, three times a month. 42
STEAM TO CORUNNA, OPORTO, VIGO, LISBON, CADIZ, AND GIBRALTAR.
A steamer leaves Southampton on the 7th, 17th, and 27th of every month.
Apply at the Peninsular and Oriental Steam Navigation Company's offices, 51, St. Mary Axe, London, where only passages can be secured throughout.

NO BREWING UTENSILS REQUIRED.

PATENT CONCENTRATED MALT AND HOP EXTRACT
enables PRIVATE INDIVIDUALS to MAKE
FINE HOME-BREWED ALE,
WITHOUT EMPLOYING ANY BREWING UTENSILS.—It has only to be dissolved in hot-water and fermented.—Sold, in jars, for medicinal and other purposes, at 1s. and 1s. 6d.; and in bottles for brewing 9 to 18 gallons and upwards of ale, at 6s. 6d. and 12s. 6d. each, by the

BRITISH NATIONAL MALT EXTRACT COMPANY,
7, Nicholas-lane, Lombard-street; Petty, Wood, and Co., 53, Threadneedle-street; Wix and Sons, 22, Leadenhall-street; Batty and Co., 15, Finsbury-pavement; De Castro and Peach, 65, Piccadilly; Hockin and Co., 26, Duke-street, Manchester-square; and oilmen and grocers generally.

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Also, just published, and may be had gratis,

NATIONAL BREWING: A GUIDE to the USE of CONCENTRATED MALT AND HOP EXTRACT, for BREWING and WINE MAKING; to which is added, MEDICAL OPINIONS relative to the virtues of malt and hops.

WALKER'S RIDDLING MACHINE.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Knowing your great desire to give publicity and countenance to any invention calculated to facilitate commerce, I respectfully request the enclosed testimonials, on my Patent Riddle, may be inserted in your journal.—Robert Walker, Colliery Viewer: *St. Helen's, Jan.* 19.

[COPIES.]

Ladyshore Colliery, near Bolton Sept. 9.

Sir,—After three months' trial of "Walker's Coal-Riddling Machine," I have great pleasure in stating, that I consider it a valuable invention, that it does its work thoroughly, and with a very small amount of breakage. (Signed) John Fletcher.

To Mr. R. Daglish, Jun., St. Helen's Foundry.

Standish Colliery-office, near Wigan, Nov. 6

Sir,—Pardon my seeming neglect, in delaying so long to give you my opinion relative to the working of "Walker's Riddling Machine," which Mr. Taylor has had erected at the Standish Colliery. It has been at work about six weeks, and I have given to it a great deal of my time and attention, so that I might ascertain its utility over those screens we have had in use for some time past. I must confess that it far exceeds all other methods of screening, that I have had the opportunity of seeing in the coal districts of Northumberland, Durham, Yorkshire, and Lancashire. I find there are many advantages to be derived from the adoption of the cylindrical riddle, over those in general use: its revolving motion completely prevents the breakage of the coals, and makes a complete separation of the coal from the slack. Besides, there is a great saving in time and labour; and I have no doubt but one riddle, properly erected and worked, would effectually screen four hundred tons of coals and slack in ten hours. When such advantages are to be derived from the adoption of this valuable invention, may we not reasonable expect, that "Walker's Patent Riddling Machine" will eventually surmount all prejudice, and supersede all other modes of riddling and screening coals now in use.

I am, Sir, your obedient and humble servant,

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To Mr. R. Daglish, St. Helen's Foundry. George Forster.

St. Helen's, April 30.

Dear Sir,—We have great pleasure in expressing our unqualified approbation of the very beautiful and perfect machine which your ingenuity has devised, and applied to the riddling of coals. The original method of separating the slack from the coal by the common hand riddle had long ago become totally inadequate for the exigencies of the present mode of carrying on the important business of coal-mining; therefore, the imperative necessity for some mechanical appliance became every day more and more pressing, until your patent machine afforded the desideratum, and at once relieved this part of your business of the cumbrous, expensive, and uncertain mode of riddling coals. Since we laid down rails connecting our works with your pits, we have not only a more regular supply, but also a better quality of slack, arising from the circumstance of the whole produce of your mines being immediately brought up to the surface and passed through your riddling machine: thus yielding fresh made slack, and more free of earthy matter. We are convinced that as soon as the advantages of your patent are seen, it cannot fail to be generally introduced. Yours, very respectfully.

To Mr. Walker. Crossfield Brothers & Co.

Gerard's Bridge and Cowley Hill Collieries, St. Helen's, Nov. 17.

Dear Sir,—After upwards of three years' trial and experience of your Patent Cylindrical Coal Riddles, which were first adopted here, we feel great pleasure in bearing our testimony to the very *perfect* and *economical* manner in which they *separate* the slack, and *clean the coals* passed through them. They also do their work as well, and appear in as good condition, as the first month they were erected. We are so fully convinced of their great and general utility to the trade, that we not only give you permission to publish this, should you wish it, but shall also be happy to afford any of your applicants, when introduced by you, an inspection of them in operation at our collieries. With our best wishes for the success of your valuable invention, We are, dear Sir, yours, &c.,

Mr. R. Walker, Colliery Viewer, St. Helens. Speakman, Caldwell, & Co.

Ravenhead Colliery, St. Helen's, Oct. 3.

Dear Sir,—We feel great pleasure in bearing testimony to the *economy* of your Patent Riddle, which we have now had at work for some months past, and can confidently recommend its general use, as the superior manner in which our coals have been cleaned since its adoption, afford us the greatest satisfaction. Wishing you the success your valuable invention so well merits, We remain, dear Sir, yours respectfully,

Mr. R. Walker, Coal Agent, St. Helens. Bromilow, Haddock, & Co.

Royal Colliery, St. Helens, Lancashire, Nov. 17.

Sir,—Having used one of your Patent Riddles for about 12 months, we find it to answer very well for separating the dust and slack from the coal, and an economical mode of effecting the same. Your obedient servants,

Mr. Robert Walker. Eccleston Coal Company.

In addition to the foregoing testimonials, Robert Walker begs respectfully to invite an inspection of his riddling machines, which have been at work at Gerard's-bridge and Cowley-hill Collieries, near St. Helen's, Lancashire, for upwards of three years. Applications will be promptly attended to, by addressing him at St. Helen's, or Mr. Robert Daglish, of St. Helen's Foundry, Lancashire.

(Signed) ROBERT WALKER, Coal Agent, St. Helen's.

Torbay and Brixham Deep Sea Harbour of Refuge and Dock Company.—To a maritime country, such as England, a succession of safe and commodious harbours around her coasts is of the utmost importance; and, although it has been to the facilities afforded that she owes her naval greatness, with the inconceivably increased, and still increasing, amount of shipping, there requires still an increase of harbour accommodation, and more particularly on the southern coast. Torbay has ever been a place of rendezvous for the Royal navy, and its capability of accommodating a very large fleet; its accessibility at every state of wind, weather, and tide, without the aid of a pilot, and its excellent anchorage, renders this situation most excellently adapted for the construction of a harbour of refuge and docks, and the erection of a breakwater for their protection. The sites selected by the company under notice, are most eligible in regard to the public advantages likely to be the result of their construction, combining the great requirements, more particularly dwelt upon by the commissioners appointed to report on harbours of refuge—facility of access at all times to vessels requiring shelter from stress of weather—possessing capabilities for a station for armed vessels of war in the event of hostilities with facilities for insuring defence in case of attack from an enemy. The town of Brixham is situated at the south-west corner of Torbay—possesses upwards of 20,000 tons of shipping—has the largest fishery in England—and will shortly be connected with the metropolis, and all the manufacturing districts, by railways, in the course of formation; and, by carrying out the company's proposals, the harbour will form a most eligible port for the loading and discharge of vessels, and will have 14 feet water at low water spring tides, while, as no pilot will be required, the port charges will be comparatively low. The promoters, in their wish to ascertain the nearest possible approximation of the estimates to the actual cost, have had a chart of the bay constructed with great accuracy; and it is estimated that the breakwater, extending 3200 feet into 5½ fathoms water, enclosing 450 acres, will cost 117,256*l.*; docks, ships, &c., 28,172*l.*; and a landing-pier at Black Ball, 7484*l.*—making a total expenditure of 152,913*l.* It is calculated that 20,000 British ships pass up and down the Channel annually, besides foreign vessels of all nations, out of which about 1000 put into Torbay; but, on the completion of the proposed harbour, this number will be very largely increased—and, from the opportunities of anchoring in perfect safety in all weathers, and at every state of tide, with the low charges, there is little doubt but ample interest will be returned for the investment. The Lords of the Admiralty and the Harbour Commissioners have given their sanction to the plan; and it is probable the Act will be obtained, without opposition, in the next session of Parliament. The capital is fixed at 170,000*l.*, in 8500 shares of 20*l.*

Chester and Holyhead Railway.—The first two miles of the line out of Chester being completed, its use has been granted to the North Wales Mineral and Chester and Birkenhead Railway Company, on payment of 2000*l.* per annum, which sum is to be increased to 2500*l.*, if the combined traffic of the two companies amounts, during the period of its rental (six months), to 31,203*l.* The portion of the line in question forms the connecting link between the railways which now enter Chester.

Northfield—New Coal Fields.—Under this head we have several times noticed the progress of a shaft at Northfield, on the estate of Mr. Isaac Flavell, called "Stone House Farm," situated about a mile south-west of the village of Harborne,—and we are now happy to add the following, through the medium of our correspondent. Mr. Flavell appears to have entirely overcome the difficulties and the doubts which have from time to time presented themselves, both as regards sand, water, and workmen; the latter, it is much to be feared, have in some stages either been ignorant or obstinate—and hence have caused considerable delay to the fair prospects now realised, which are, a stoppage of water, a sinking to the depth of 70 yards, and a discovery of ironstone, and the blue or black ring, which is usually taken as an ordinary step of the approach to coal; so that, in a short time, we hope Harborne will enjoy the privileges of its own "coal-holes," as it is the intention of Mr. Flavell's neighbours to follow his worthy example as soon as he fully succeeds. Our correspondent has been informed by an old man on the spot, that 30 years ago an adjoining farm was bored to a depth of 170 yards, and two beds of coal were found, the bottom one being of considerable thickness.—*Birmingham Advertiser.*

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

Society.	Address.	Day.	Hour.
Royal Botanic	Inner Circle, Regent's-park	Saturday	3½ P.M.
Geographical	3, Waterloo-place	Monday	8½ P.M.
Entomological	17, Old Broad-street	Monday	8 P.M.
British Architects	16, Grosvenor-street	Monday	8 P.M.
Medical	Bois-court, Fleet-street	Monday	8 P.M.
Medical and Chirurgical	53, Berners-street	Tuesday	8½ P.M.
Zoological	11, Hanover-square	Tuesday	8 P.M.
Society of Arts	Adelphi	Wednesday	8 P.M.
Royal	Somerset-house	Thursday	4 P.M.
Antiquaries	Somerset-house	Thursday	8 P.M.
Royal Society Literature	4, St. Martin's-place	Thursday	8 P.M.
Medico-Botanical	32, Sackville-street	Thursday	8 P.M.
Royal Institution	Albemarle-street	Friday	8 P.M.
Philological	Lond. Lib., 12, St James's-sq.	Friday	8 P.M.
Westminster Medical	27 A, Sackville-street	Saturday	8 P.M.

GEOLOGICAL SOCIETY.

Jan. 6.—The President (Mr. Horner) in the chair.

Mr. Fraser was elected a fellow of the Society.

A communication was made, entitled "Observations on the meaning originally attached to the word 'Cambrian,' and on the proofs recently obtained of its being geologically synonymous with the term 'Lower Silurian,'" by Sir R. I. Murchison. The author explained the origin and establishment of the Silurian System, and its division into two great stages, upper and lower; and contended that the latter could not now be abrogated, if the principle of identifying strata by fossils was maintained. He then shewed that, if the term Cambrian was substituted for Lower Silurian, the Silurian System would, in fact, have no existence in European Russia and Scandinavia; and that, in the British Islands and elsewhere, it would be reduced to a small band scarcely recognisable on any general map.

A paper was then read "On the Calf of Man," by the Rev. J. G. Cumming. This small islet must be considered, geologically, as a prolongation of the Mull Hills in the Isle of Man, being separated by a transverse chasm. It is composed of schists, highly inclined, and striking S. 76° E. The chief object of the present paper is to direct attention to a singular insolated mass of scratched boulders, gravel, and sand, rudely stratified, situated at the height of 372 ft. above the present sea level. Refering to a former communication, the author is now inclined to consider the boulder clay as including more of the tertiary gravel than he had before imagined; and believes that an elevation of the whole island, to a height of at least 400 feet, has taken place since the period of the boulder deposit. He suggests the hypothesis of a grounded iceberg, as the best means of explaining the phenomena in the Calf of Man.

A paper was next read "On some Fossiliferous Beds in the neighbourhood of Bombay," by Mr. G. E. Clark. The neighbourhood of Bombay is composed of several bands of trap-rock, dipping west at a low angle, and separated by beds, apparently sedimentary, in which the fossil remains of frogs have been found. The author then proceeded to give an account of the general structure of the country eastward from Bombay; and stated that in the Konkun, a low tract between the sea and the Ghauts, he had discovered what he believed to be a range of ancient craters, while in the Ghauts themselves the dip is very slightly to the east. The beds both in the east and west are trap.—A notice by Prof. Owen, "On the Batrachnolites, described in Mr. Clarke's paper," was next read. These frogs were of small size, and appear to belong to a new species, for which the name of *Rana pusilla* is proposed.

The next paper was "An extract from the Report on a portion of the country near Bombay," by Mr. Conybeare. The district described extends from the summit of the Malsej Ghaut down the Malsej Valley, in an E.S.E. direction, and then across several ranges of hills, in a N.N.E. direction for 35 miles, until it reaches the Valley of the Peera, beyond Ambareh. The trap formation which forms the district consists of an alternation of hard and soft beds of great thickness, and uniformly horizontal overlaying beds of gravel. These affect the general appearance of the vegetation, which looks streaky from the richer soil on the decomposing bands. The basalt is sometimes amygdaloidal, and is tolerably uniform in character. Dykes of columnar basalt are seen in the lower beds.

INSTITUTION OF CIVIL ENGINEERS.

Jan. 19.—Sir John Rennie (President) in the chair.

The annual general meeting of the institution was held on Tuesday evening, the 19th inst.; and, at the ballot for the officers for the ensuing year, the following gentlemen were elected:—Sir John Rennie (president); W. Cubitt, J. Field, I. M. Rendel, and J. Simpson (vice-presidents); J. F. Bateman, I. K. Brunel, J. Locke, Sir J. Macneill, J. Miller, W. C. Mylne, T. Sopwith, R. Stephenson, G. P. Bidder, and J. Cubitt (members); and Capt. Coddington and C. Holtzapffel (associates of council). The report of the council was very satisfactory, as it announced the institution to be in a most prosperous state in every respect, and induced a full conviction that the recently improved premises would be advantageously occupied for the members and the profession generally. Telford medals were presented to Messrs. Barlow, Snell, Harding, Williams, Parkes, West, and Ritterbandt; and premiums of books to Messrs. Turnbull, Heppel, and Robertson. Council premiums, consisting of collections of books of considerable value, were presented to Messrs. Barlow, Snell, and Harding, in addition to the Telford medals. It was announced, in the annual report of last year, that the council intended establishing these premiums; and, from their value and the stimulus they offer to the competitors, it is hoped they will produce good communications for the meetings. Succinct memoirs were given of the deceased members—Messrs. Crane, Deville, Handley, and Winsland. The report entered fully into a description of the alterations of the building during the recess. It appeared that, in consequence of the resolutions of a general meeting, Mr. T. H. Wyatt, architect, was requested to make certain alterations, and Mr. Grissell undertook their execution. Within the short space of four months, these have been completed, and all are inhabited except the theatre, which is yet too damp. The principal works appeared to be the remodelling the basement story, putting an entire new foundation beneath, and partly rebuilding the front wall, which has been cased with Caen stone, and decorated in the Italian style, with a portico at the entrance, and balconies to the first and second floors. The ground floor rooms are thrown together, and described with oak panelling. The rooms on the first and second floor are made to communicate with each other, by folding-doors, forming suites of rooms for libraries, the whole very appropriately decorated in a style perfectly in accordance with the destination of the rooms, and the simplicity that should be adopted in all public buildings of such a character. The new theatre is so much enlarged as to contain nearly 100 persons more than the old one; it is now 22 ft. high, well lighted both by day and night, and very efficient methods for warming and ventilating have been adopted. Altogether, we seldom see alterations so successfully planned and executed; and the thanks of the meeting—which were unanimously given to Mr. T. H. Wyatt, the architect, Mr. Grissell, the builder, and Mr. Manby, the secretary, who superintended the execution of the works—were justly merited.

In his address, Sir John Rennie, after alluding to the stimulus the profession had received from the number of public works recently undertaken, and the high position which the institution had obtained from the successful labours of its various members, the necessity of still further exertions was impressed on the meeting, in order to support the scientific character they had earned. Far from being satisfied with what they had done, this feeling should only act as an incentive to greater efforts; but, by continuing in the same course, they might arrive at a point as much in advance of what had been done in the present day, as they were now beyond what had been done in the time of Smeaton. He then reviewed the progress that had been made in railway travelling and steam navigation, and made some valuable remarks upon the formation of bar harbours, and the drainage of extensive districts of marsh land; and, after glancing at the improvements which had taken place in various branches of science, he observed, that the present position of civil engineers in Great Britain had been brought about entirely by the wants of the community; without the encouragement, or fostering hand, of Royal or Government patronage, they had attained an unequalled degree of eminence in every department; there prospects were bright, and would continue so, if they held well together, and were zealous of their present high reputation.

The President then remarked upon the appointment of civil engineers by Government, to investigate into the merits of various projects, which had been submitted to the Health of Towns' Commission, and which he characterised as a step in the right direction—and observed, that if the same [illegible] been pursued with regard to railways, and other important works, [illegible] enabled the Legislature to arrive at correct conclusions respecting [illegible] these projects, the public would have derived infinitely greater advantages [illegible] they were likely to do from their present system—as the naval and military officers, who had been appointed upon these commissions, however talented in their own profession, and highly honourable and well intentioned, must, after all, derive their information from civil engineers, who alone would be competent judges; neither could he approve of the system of interfering too much with private enterprise. The public understood their own interest much better than any Government—and although the present system might have some defects, it had hitherto worked well; competition had produced talent, and employment for it, and the result had been eminently satisfactory. They had only to compare many of the establishments of Government with those of private individuals, to find that the latter were preferable, whether as regarded celerity, quantity produced, or economy of manufacture; but the moment the continental system was followed, and everything rendered subservient to Government, the general energy would be cramped, and the public works of this country would dwindle into comparative insignificance. Civil engineers were bound to give every assistance in their power to the Legislature, in order that public works should be established on the best principles; and the profession should make their services indispensable by their superior knowledge, and the liberality with which they offered them. The Government and the public would then necessarily apply to them, and they would then receive the due reward of their exertions.—The President then concluded his able address by thanking the vice-presidents, council, and every member, associate, graduate, and officer of the institution, for the kindness, attention, and support, which they had on all occasions exhited towards him; and expressed his hope and conviction, that the same excellent feelings, which had uniformly attended every one of their meetings, would still continue to be shown, and by which the prosperity and influence of the institution would be assured in future.—Unanimous votes of thanks were given to the president, vice-presidents, and other members of council, and to the secretary, for their attention to the interests of the institution; and the meeting was adjourned until Tuesday evening, February 2d, when the following paper was announced to be read:—"An Account of the Method employed in Laying the Permanent Way of the Philadelphia and Reading Railway, U. S.," by W. E. Newton.

SOCIETY OF ARTS.

Baron de Goldsmid and de Palmeira, F.R.S. &c., Vice-president, in rotation.

The following gentlemen were proposed as members:—Daniel Maclise, Esq., R.A., Charles Locke Eastlake, Esq., R.A., Thomas Webster, Esq., R.A., J. Calcott Horsley, Esq., Charles Augustus Cole, Esq., and George Perry, Esq.

The first communication read was by Mrs. Whitby, "On the Cultivation of the Mulberry, and the Growth of the Silkworm in this Country." Mrs. Whitby commenced her paper by stating, that, while travelling in the north of Italy, in 1835, she heard of an English gentleman who had doubled his capital in three years, and received 10 per cent. on that laid out in a silk establishment near Milan. Knowing that agricultural labour was at a low ebb in England, and that there was great difficulty in finding employment for the labourers, and seeing that the young mulberry trees in Lombardy were blown aside by the north-east wind, as the forest trees of England are by the south-west gales—also that fogs and severe frosts of long duration occur in that country, she determined to endeavour to introduce the cultivation of the mulberry into England, and, accordingly, ordered a number of plants of the sort called "of the Phillipine Islands," which arrived in England in April, 1836; and they were treated according to the directions given in M. Boirdon's book, and not a plant was lost; she also bought silkworm's eggs at Novi, which is said to produce the finest silk in Italy. Having tried year after year to wind off the silk from her cocoons, and having found great difficulties in so doing, she was induced to send to France, in 1844, for a person acquainted with the process; and the result has been very successful in producing silk fit for the loom. She then proceeds to detail the treatment the eggs require to prevent their being hatched before the leaves of the mulberry are ready. In the same year, she also learnt how to treat the mulberry plants, which before had only been left to themselves; and the result of the last two years' trials has been highly satisfactory in regard to the cultivation of the mulberry, and the produce and quality of the silk drawn from the cocoon. Cuttings of the *morus multicaulus*, or mulberry of the Phillipine Islands, put into a cucumber frame, with slight heat in October, 1844, and thence transplanted into the open ground in the following spring, are now yielding, on an average, 10 cuttings each plant—2 lbs. weight of leaves having been previously gathered from each plant to feed the silkworms. The plants, originally imported in 1836, have spread so much, that the dwarfs have been obliged to be thinned; and they have produced shoots, during the past summer, of from 6 to 8 ft. long. One acre of land, planted with 2400 of the *morus multicaulus*, will, at the end of two years' growth, yield from 20,000 to 24,000 cuttings, sufficient, when rooted, to plant another acre. In 1846, Mrs. Whitby goes on to state, she made several experiments to ascertain the relative value of eggs procured from four different places, and gives the following comparative weight and number of the cocoons produced—all the worms being treated in every respect alike:—

	Cocoons.			Cocoons.		
No. 1. English	77	weighed 2 ozs.,	and	77	produced 1 oz. raw silk	
„ 2. Poictiers	55	„ 2 „		460	„ 14	„
„ 3. Bordeaux	47	„ 2 „		480	„ 14	„
„ 4. Italian	45	„ 2 „		218	„ 7	„
„ 5. Bengali	340	„ 2				

The Bengali cocoons were so inferior to the others, that they were not wound off. The communication concluded with a reply to the following question:—"How the English grower could compete with the Bengal grower—the latter having four crops, and the former only one, annually?"—*viz.*: one cocoon reared in England is equal in weight to four of the Bengali, and the raw silk sells at from 23*s.* to 25*s.* per lb., whilst the Bengali raw silk fetches only from 10*s.* to 11*s.* per lb.

The second communication was by James Mather, Esq., "On the Ventilation of Schools, Churches, Public Rooms, &c." The author, after a lengthened introduction, proceeded to state that the application with which he had been honoured from the committee of the Union Schools at South Shields, for suggestions for ventilating their schools, had afforded him an opportunity of doing so. The first room is a school for boys, and is on the ground floor—its length is 60 ft.; breadth, 30 ft.; and height, 13 ft., and contains 23,400 cubic feet. The second room for girls is on the upper story, and is 45 ft. long, 30 ft. broad, and 13 ft. high, and contains 17,550 cubic feet. In the first room there are 180 boys—each breathing not less than 1200 times an hour, and requiring more than 142,000 cubic inches of atmospheric air per day, of 24 hours, which, for 180 boys, will be 25,560,000, or, for the five hours they are confined in the school-room, 5,325,000 cubic inches of atmospheric air, 1.7 5-5ths of the entire air of the room, pouring into it in that time from their lungs about 319,500 cubic inches of carbonic acid gas, taking it 5 per cent. of the atmosphere inhaled, mingling with it also nearly 3,206,750 cubic inches of free azote or nitrogen, which, with the carbonic acid gas, constitutes a large portion of the school atmosphere. I entered these school-rooms (observes the author) towards the conclusion of school hours, and found the air vitiated to a serious extent—emanations from the lungs and skin being very perceptible and sickly, and, in a small degree, resembling the deadly after damp. In order to prevent the injurious effects resulting from such an atmosphere, it is necessary that the whole air of the room should be changed at least every half hour, so that every noxious gas may be removed. For this purpose, he proposes that an aperture, not less than 12 inches by 24, should be made through the wall on the west side of the room (the most open and unobstructed), 6 ft. from the floor, equidistant from the end walls; this would be sufficient to displace the entire contents of the room every half hour, passing in at the rate of 6 ft. per second. This column of air he proposes should be carried directly across the room by means of a wooden tube, 12 in. by 16 in., like a beam; and a second tube, 10 in. by 10 in., from the same aperture, should rise perpendicularly against the west wall to the ceiling, cross it at right angles, and then descend the east wall, till it meets the horizontal beam at its extremity. From the centre on the floor, a tube is to rise as a pillar, supporting the horizontal beam; these tubes are each to have about 500 holes drilled in them, for the purpose of spreading the air in all directions. The author then proceeds to suggest various plans for the ventilation of churches and dwelling houses of all descriptions, and also of confined courts, lanes, and streets.

The third communication was by William Taylor, Esq., F.L.S., "On a new Oil Plant called the 'Gold of Pleasure,' or 'Camelina Sativa,' and its importance to agriculturists and manufacturers generally; with remarks on the opportunity now afforded of introducing its cultivation into Ireland." Samples of the seed and oil were exhibited. "I have (observes Mr. Taylor) paid great attention, for the last 20 years, to the cultivation of oleiferous plants—the result of which has been the discovery the 'Gold of Pleasure,' or 'Camelina Sativa.' The plant is an annual, belonging to the natural order cruciferæ, and grows to the height of 2 or 3 ft.; it is a native of the most northern parts of Siberia. The first supply of seed was received from Professor Fischer, of the Royal Agricultural Society of St. Petersburgh; the soils best adapted to its cultivation are those of a light nature, but it does not fail to produce a crop on land of the most inferior description; it has been found on barren, sandy soils, where no other vegetable would grow: the time for sowing the seed is early in the spring months; the quantity of seed required per acre is 10 lbs.; it should be drilled in rows, about 9 in. apart, and may be cultivated after any corn crops, and is a non exhauster of the ground. Professor Van Ost, an eminent experimental chemist, of Belgium, says—'If farmers did but known the value of this plant, they would all grow it.' A fine oil is produced from the seeds, fit for burning in lamps; it can also be used in the manufacture of woollen goods, soap, &c., and can be sold at a cheap rate. The oil cake made from this seed, has also been found highly nutritious and useful in fattening oxen and sheep, as it contains a great portion of mucilage, albumen, gluten, and other matter, which, when combined, is found to be very beneficial in developing fat and lean." Mr. Taylor concludes his paper, by referring to the present distressing state of Ireland, and the importance of endeavouring to introduce into that country the cultivation of so valuable a plant; and by expressing his willingness to find seed, provided he might be allowed to purchase the crop, which he states is worth 3*l.* or 10*l.* per acre, without the straw.

Specimens of Mr. Bielefeld's new patent *papier maché* were exhibited. The improvement consists in manufacturing the *papier maché* on wood of any length, and ready for gildings—thus enabling a handsome picture-frame, cornice, or decorated moulding, to be supplied at a very cheap rate.

Australian Agricultural Company.—A general meeting of the proprietors and shareholders took place yesterday, in order to receive the directors' report, which stated, that the affairs of the company were in a most flourishing condition. The chairman announced, it was the intention of the directors to declare a dividend of 1*l.* per share. The company had effectuated their final arrangements with the Government, and they would have their title deeds made out in a very short time. There remained a net balance to their credit for the past year of 82002.; but, after the dividend had been paid, it would be about 5000*l.* The report was adopted, and a resolution, declaring a dividend of 1*l.* per share, carried unanimously.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.....Consolidated Copper Mines of Cobre Association—offices, at One.
Union Bank of Australia—offices, at One.
Royal General Annuity Society—London Tavern, at One.
Reading, Guildford, and Reigate Railway—London Tavern, at One.

TUESDAY.....Holyford Mining Company—offices, at One.
London Cemetery Company—Radley's Hotel, Blackfriars, at Twelve.
Reliance Mutual Life Assurance—offices, at One.

WEDNESDAY...United Mexican Mining Association—offices, at One.
Rhymney Iron Company—London Tavern, at half-past One.
National Life Assurance Society—offices, at One.
Phœnix Gas-Light and Coke Company—London-bridge House Hotel, at Twelve for One.

THURSDAY.....Australian Trust Company—offices, at Twelve.
Harrowbarrow Consols Mining Co.—Golding's Hotel, Callington, Two.
Commercial Gas-Light and Coke Company—London Tavern, at Twelve.
Ratcliff Gas-Light and Coke Company—London Tavern, at Two.
Mariners' and General Life Assurance Company—offices, at Three.

FRIDAY.....Clerical, Medical, and General Life Assurance Society—offices, at Twelve.

SATURDAY.....Enfield and Edmonton Railway—London Tavern, at One.
Bastenne Bitumen Company—offices, at Three.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

CAMERON'S COALBROOK STEAM COAL, AND SWANSEA AND LOUGHOR RAILWAY.

A special general meeting of the shareholders was held at the offices, Moorgate-street, on Monday, the 18th inst.; the meeting was somewhat numerously attended.

N. PRYCE CAMERON, Esq., in the chair.

The advertisement convening the meeting having been read by the secretary, the CHAIRMAN briefly observed, that the meeting had been rendered special, having for its object the declaration of a dividend for the past six months, ending 31st December last, at and after the rate of 12½ per cent. on the paid-up capital. He doubted not but, at their ordinary meeting to be held in July next, that such dividend would be considerably increased. There being no other business before the meeting, he submitted to their approval the dividend proposed, which, being assented to, the meeting was declared dissolved.

Upon the adjournment of the preceding meeting, the CHAIRMAN (N. Pryce Cameron, Esq.), in addressing the proprietary, stated, that the present was held conformably to the resolution at a former meeting, to report on the progress made, with reference to the proceedings of the company; and he would, therefore, call on the secretary to read the advertisement, and also the report of the directors.—A. C. HOWDEN, Esq., having read the advertisement, proceeded with the following report:—

REPORT.

Since the date of the report submitted to the general meeting of shareholders on the 14th of October last, soon after the passing of the Act of Parliament, authorising the construction of the company's railway, the directors have continued to give their best attention to the expediency of taking measures to commence the construction of the line; and the more the subject is considered, the more they are satisfied of the value and importance which the railway will be when constructed—not only as it will effect a considerable saving in the transit of their coal for shipment at Swansea, but looking to the large amount of mineral and other traffic which must pass over the line, with its future extensions. it will form the trunk line of communication between Swansea and the large mineral properties lying to the north and east, and will also connect the port of Swansea with the manufacturing districts of the midland counties of England. In particular, as known to all the shareholders of this company, the proposed construction of floating docks at Swansea, into which this company's line will directly run, and for which a bill is before Parliament during the present session, will open up to this company another field of large and profitable advantage. The directors anticipate that the time is not remote when the merits of the undertaking will be fully appreciated and universally acknowledged. The future operations of the directors will be guided by a due regard to economy in all their arrangements, and, at the same time, to secure at the earliest possible period the means of transit by rail for the large supplies of coal which their coal-fields can yield, and which continues to find a ready sale at Swansea.

The CHAIRMAN at once submitted to the meeting, whether such report should be accepted and approved, which was carried unanimously.

A question arose as to the course contemplated by the directors, in carrying out the powers vested in them by the Act of Parliament for constructing the railway, whereupon the CHAIRMAN stated, that certain overtures had been made by parties to the directors, with the view of obtaining the line, which would, in fact, form a trunk line, as communicating with the mineral field of South Wales and the midland counties, whereby not only would the coal be transported at a reduced cost, thus enhancing the value of the collieries belonging to the company, but an advantage would be secured by the proposed construction of floating docks at Swansea. The overtures made had, however, been rejected, as not holding out those comparative advantages which they had a right to expect from forming the line by the company.

Mr. ELDERTON (the solicitor of the company) begged, with permission of the chair and the proprietors, to offer one or two observations on the question then before the meeting. The Act which they had obtained in the last session of Parliament was one he deemed highly valuable, and which had been attended with much anxiety from the opposition put forward; it was, however, pleasing to congratulate the shareholders on the success which had attended their exertions; and, with respect to the offers made to the directors, such would be duly considered, at the same time that it was a manifestation of the importance attached to the line.

Mr. B. SALOMANS inquired the terms offered by the several parties, as being satisfactory to the meeting?—In reply to whom, the CHAIRMAN stated, he did not feel himself at liberty, with a due regard to the interests of the proprietors generally, and, moreover, while the question was at issue, to divulge any matter appertaining thereto; at the same time he might remark, in answer to a proprietor, that nothing would be done without first convening a meeting of the proprietors, and taking their opinion on the proposition submitted.

Col. CAMERON wished to state, that he had, within the past few days, had a communication with parties on subject of the railroad, but at present no terms had been mentioned: he should, at an early period, in all probability, enter on terms; but, in his opinion, the advantages to be derived by the railway, as affected the colheries, was such that he should be much indisposed to allow it to pass from their hands.

A slight discussion ensued: when a vote of thanks, having been proposed by the Rev. Mr. SHERMAN, was unanimously passed to the directors and to the chairman, and the meeting separated.

ST. KATHARINE DOCKS COMPANY.

The annual meeting of the proprietors of the St. Katharine Docks was held on the 19th day of January inst., in the dock-house, to declare a dividend. THOMAS TOOKE, Esq., in the chair.

The SECRETARY having read the notice in the *Gazette* convening the meeting, the CHAIRMAN addressed the proprietors, and observed, that the notice which had just been read apprised them of the purport of the meeting. The accounts of receipt and expenditure of the company had been open to the proprietors for inspection and examination during the last 14 days. From these it appeared that the general balance brought forward to the credit of the company on the 1st day of Jan. last was 96,339*l.* 19s. 6d., and that the like balance on the 1st of the present month was 88,569*l.* 7s. The gross earnings and the expenses of the company, during each of the last two years, were as follows:—

	1845.	1846.
Gross earnings	£330,992 15 2	£229,814 14 10
Expenses	122,717 7 11	124,269 14 7
	£108,275 7 3	£105,545 0 3

The net earnings, therefore, applicable to dividend and interest for the last year, were less than those of 1845 by 2730*l.* The diminution had not, however, been caused by any falling off in the business of the docks—on the contrary, it would be seen by the statistical returns on the table, that the number and tonnage of ships that had entered the docks, the merchandise landed, and the stock of goods in warehouse, had all been larger in 1846 than 1845. This increase of shipping and of tonnage had taken place, whilst it was to be observed that the total of ships and tonnage that had entered the docks had also exceeded that of any previous year since they were established. The landings of merchandise had also surpassed those of 1845 by no less than 6008 tons, and the stock of goods in warehouse had increased likewise. Notwithstanding such increase of business the earnings, however, as had been seen, were rather less; this was accounted for by the circumstance of a portion of the merchandise being of a less valuable description, and the rates thereon, consequently, not so productive; at the same time, those less valuable goods, being more in quantity and more bulky, entail a heavier charge for labour. The difference in those respects was a casualty in the operations of commerce, which might happen in an opposite direction in another season. Although the earnings were thus short of the amount requisite for the usual half-yearly dividend of 2½ per cent., the directors were not, upon a full consideration of all the circumstances, disposed to recommend any alteration of it on that occasion; and they proposed that the sum requisite beyond the earnings to make up the amount for dividend should be taken from the rest. The sum on which the dividend would be payable now amounted to 1,499,550*l.*—of which 1,352,800*l.* was the original capital stock, and 146,750*l.* being 25 per cent. of calls received on the sum subscribed of 587,000*l.*—the amount of calls so paid being entitled by the terms of the agreement for conversion to the same dividend as that payable on the original stock. The dividend of 2½ per cent. for the half year, if agreed to by the proprietors, would, on the collective amount, as stated, of original stock and paid calls, require a provision of 37,485*l.*, which, deducted from the balance of 88,569*l.* 7s., would leave a "rest" of 51,084*l.* It had hitherto been understood, that the amount of dividend declared at the January meeting of proprietors, should be held to govern the amount to be declared at the July meeting of proprietors, when the accounts were not exhibited, and such course it was proposed still to pursue. But whilst the directors, all things considered, had determined to recommend a continuance of the usual dividend for the present year, they thought it right to state, that unless there should be a material increase in the earnings of the company during the current year, they would not feel justified in any further encroachment on the rest, but would consider themselves as having no alternative but that of proposing at the next January meeting a reduction of dividend.—The Chairman said, that the court of directors had under their consideration the terms upon which permission should be given to the holders of scrip on the additional stock subscribed for, to pay up the instalments in full, and announced that the result of their determination would be communicated by circular to the holders. The Chairman then proceeded to make the following statistical statement:—

COMPARATIVE ABSTRACT FOR THREE YEARS.

	1844.	1845.	1845.
Goods landed in the Docks ..Tons	101,355	111,917	117,925
Increase in 1846		6008 tons.	
Stock of goods in warehouse		60,126	61,091
Increase in 1846		965 tons.	

SHIPPING.

Ships and Tonnage entered the St. Katharine Docks with Cargoes.

1844.	1845.	1846.
Ships, 591—Tons, 149,915	Ships, 649—Tons, 170,778	Ships, 673—Tons, 171,491
Increase in 1846, 24 Ships	703 tons.	

PORT OF LONDON.

Ships, with Cargoes, that entered the Port of London from Foreign Parts, distinguishing the British from the Foreign.

	BRITISH.		FOREIGN.		TOTAL.	
	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.
1844	4726	1,005,567	2126	351,047	6852	1,356,614
1845	5107	1,107,994	2414	389,637	7521	1,497,631
1846	5228	1,134,646	2479	393,388	7707	1,528,034
Increase in 1846	121	26,652	65	3,751	186	30,403

The CHAIRMAN concluded, by proposing, in the usual terms, a resolution, which was seconded by Sir GEORGE LARPENT (the deputy-chairman), declaring a dividend of 2½ per cent., and the amount of income tax to be defrayed by the company, which was unanimously agreed to; and, after a very complimentary resolution of thanks to the chairman and rest of the directors, moved by Mr. POYNDER, and seconded by Mr. DE VITRY, the meeting separated.

NORTHERN COUNTIES UNION RAILWAY COMPANY.

A special meeting of proprietors was held at the London Tavern, on Wednesday, the 20th inst.—Major BERESFORD, M.P., in the chair.—A report was read, which stated that a resurvey of the most expensive portions of the line had been made, from Smardale Gill to Barnard Castle, but the directors objected to adopt the plans, on account of the severity of the gradients. There had been a survey made for a deviation at the point of junction with the Liverpool, Manchester, and Newcastle-upon-Tyne Junction Company, to make the levels of both coincide, which would effect a saving of expense. The directors had also agreed to a joint construction of the line from Carperby (the point of junction) to Wath by the two companies. The report concluded by a proposition for amalgamation with the Liverpool, Manchester, and Newcastle-upon-Tyne Junction Company.—A motion was made that the 25th clause of the Act be expunged, which was seconded, and led to some discussion.

Mr. HOWARD moved, as an amendment, that it be retained. The object of the resolution was to give the shareholders the power of deciding as to the application of the capital, for the clause confined them to expend the money on the Yorkshire and Glasgow and York and Carlisle simultaneously.—Several shareholders seemed to think that the directors had no right to deviate from the original plan.—The CHAIRMAN said that, if they were to continue their present line, it would be an act of perfect insanity.—The resolution was carried by a large majority, there being only about 9 or 10 hands for the amendment.

Mr. HOWARD insisted on a poll being taken, as he held a vast number of proxies for his amendment.—The CHAIRMAN said he had also a vast number of proxies on the contrary.—The poll having been assented to, the proposition for amalgamation was then submitted, to which an amendment was proposed, but was negatived. The result was, for amendment, 3303 votes; and for expunging the 25th clause, 8100; majority for the directors' resolution, 4197 votes.

The CHAIRMAN then moved the adoption of the report, when a committee was appointed to negotiate as to the amalgamation with the Liverpool, Manchester, and Newcastle Company, and to report to the shareholders. The proposed agreement showed the present capital of the Northern Counties Union to be 3,000,000*l.*; and the Liverpool, Manchester, and Newcastle, 1,400,000*l.*—from which there was to be made a deduction of 400,000*l.*, for the line to be made in common, making the total required capital 4,000,000*l.*; and the amount actually paid was as follows: Northern Counties Union, 150,000*l.*; Liverpool, Manchester, and Newcastle, 175,000*l.*; together, 325,000*l.* The capital to be reduced to 3,000,000*l.*—of which 120,000 shares of 15*l.*, with a credit of 1*l.* per share paid, be given to the Northern Counties Union, making the amount 1,800,000*l.*; and 80,000 shares of 15*l.* to the Liverpool, Manchester, and Newcastle Company, with a credit of 2*l.* 10s. per share, making the amount 1,200,000*l.* The Liverpool, Manchester, &c., to receive 3,000,000*l.*; a bonus of one share to every seven, such one share being considered as 2*l.* 10s. paid up; the amount of 5000*l.* difference in deposits, to be applied in reduction of the expenses of the Northern Counties Union Company; the names of the amalgamated company to be the Liverpool, Manchester, and Newcastle, and York and Glasgow Railway. These terms, contingent on the repeal by Parliament of the 25th clause of the Northern Counties Union Railway. In case Parliament object to this, and to reduce the capital to 3,000,000*l.*, the companies to raise jointly the 4,000,000*l.* in 20*l.* shares, 5*l.* of which shall not be called up till the shareholders have decided that the construction of the line from Kirkby Stephen to Bishop Auckland shall be proceeded with.

BELGIAN RAILWAYS—PROPOSED AMALGAMATION.

On Saturday, a meeting of the shareholders in the Great Luxembourg, the Louvain à la Sambre, the Belgian Eastern Junction, the Namur and Liege, and the Sambre and Meuse Companies, was held at the London Tavern, Bishopsgate-street, for the purpose of considering the propriety of concerting measures with a view to effecting such an amelioration of the interests of the above-named companies, or some of them, as may secure to the proprietors the earliest and most economical realisation of the anticipated results. On the motion of Mr. TILSON, Mr. J. MASTERMAN, jun., one of the directors of the Great Luxembourg Company, was called on to preside.

The CHAIRMAN stated, that it had been thought right to sound the Belgian Government on the subject; and though, of course, he (the chairman) could not presume to speak their sentiments, yet he was in a condition to state, that the proposition had been under the consideration of different Belgian ministers, and was favourably entertained by them with much favour. Without wishing to exc[illegible]ve hopes, he felt confident that, by amalgamation, 100 miles direct fr[illegible]s might be made and opened without a single call upon any of the co[illegible] during the present year. He was happy to state, that the directors o[illegible]vain à la Sambre line had resolved to accept the invitation, and to s[illegible] deputation of their body to attend the proposed conference on the sub[illegible] The directors of the Great Luxembourg were prepared to do the same. [illegible]ch respect to the other three companies, he would not say any thing—but [illegible]uld conclude by reminding them and their shareholders of the Belgic motto, *L'union fait la force.* The chairman resumed his seat amidst general applause.

Mr. MALLISON moved, and Mr. PATTISON seconded, the adoption of a resolution to the effect, that "this meeting having seen, in numerous instances, the great advantages that have resulted from the amalgamation of English lines, is extremely desirous that the same principle should be extended to the Belgian Companies."—The resolution was supported by the Rev. Mr. POOL, and several other gentlemen.

Mr. RICHARDSON wished, before agreeing to the resolution, to be furnished with a financial statement of the funds of each company, and a return of the state that the several works were in. (Cries of "No no.")—After a desultory and wholly irrelevant conversation, the resolution was carried, only two hands being held up against it.

Dr. WORTHINGTON moved the next resolution, that with a view of ascertaining the practicability of such amalgamation of the five lines already mentioned, the directors of each company be requested to name a deputation of two or three members to confer upon the subject, and to report to a future meeting the best mode of carrying the same into effect.—Mr. Alderman SIDNEY having seconded the motion—Mr. RICHARDSON moved as an amendment that two shareholders from each company be added to each deputation.—The amendment, however, did not find a seconder, and the original motion was carried, Mr. Richardson being the only dissentient.—Thanks were then voted to the chairman, and the meeting broke up.

LEASE OF THE BIRMINGHAM, WOLVERHAMPTON, AND STOUR VALLEY RAILWAY.—The London and North-Western Company have accepted a lease of the Birmingham, Wolverhampton, and Stour Valley Railway, upon the following terms:—The London and North-Western Company to pay upon the capital of the Birmingham, Wolverhampton, and Stour Valley, to be taken at 760,000*l.*, a dividend at a per centage equal to two-thirds of dividend at the time being paid upon London and North-Western stock. This dividend to be paid half-yearly from the opening of the line. The proprietors of the said capital of 760,000*l.* to receive a proportionate allotment of all new capital to be created by the London and North-Western Company. Any further capital required for the completion of the Stour Valley Railway, or its branches, to be provided by the London and North-Western Company. Interest at the rate of 4 per cent. to be allowed upon deposit and calls.

CHESTER AND HOLYHEAD RAILWAY.—The platforms for the Britannia and Conway Bridges, on which the tubes are to be constructed, are now in course of erection, and a considerable quantity of the iron is already manufactured. The platform at the Straits will be 1000 ft. in length, with wharfs and sheds to protect the workmen. In a few weeks, the construction of the tubes themselves will be commenced and rapidly proceeded with. The massive apparatus for raising these ponderous structures is also in a forward state, under the direction of Mr. Edwin Clark, the engineer appointed by Mr. Robert Stephenson to superintend the operations, and in a short time the aerial garden of Babylon will be more than rivaled by this modern monument of enterprise and ingenuity; nor can we fail to be struck with the rapid advance of engineering science when we reflect that the great originator of the locomotive is still in the prime of life, and, having traced its course through thousands of hills and valleys, will, in all human probability, live to see the monster he has created, unconfined by natural boundaries, carried across the sea itself by this *chef d'œuvre* of his own eminent son—having reduced to a 12 hours' journey the distant capitals of England and Ireland.—*Wolverhampton Chronicle.*

CORNWALL AND DEVON CENTRAL RAILWAY.—We understand that a deputation from the London and South-Western Railway Company will visit this county in a few days, for the purpose of calling attention to their scheme of *direct* communication from London to Falmouth—of the superiority of which, over the round-about line by Plymouth, but one opinion is entertained by every Cornishman.—*Falmouth Packet.*

THE IRON TRADE OF THE FIRTH OF FORTH.

[FROM A CORRESPONDENT.]

Hitherto this important trade has been almost entirely confined to the west of Scotland, and whilst that part of the country had been annually enriched to the extent of about 3,000,000*l.*, our noble river, with its inexhaustable fields of mineral wealth, has been allowed to remain dormant.

From the annual circular just published by Messrs. Connel and Co., of Glasgow, it appears that the produce of pig-iron in Scotland last year, amounted to 520,000 tons, of which 199,000 tons were consumed in Scotland in making castings; and *one hundred and four thousand* tons by manufacturers of malleable iron, in making rails and other descriptions of wrought-iron—the remainder being exported to England, France, Germany, and other countries, for casting and malleable iron purposes.

This important trade may be said to have sprung into existence in Scotland within the last 15 years, prior to which the produce did not exceed 30,000 or 40,000 tons. When it is borne in mind that the whole of this wealth is taken from the bowels of the earth—that no part of the raw material necessary for the production of pig-iron has to be imported—it is obvious that the entire value of the iron produced must be actual gain to Scotland; and as the value of our agricultural produce is only about 20,000,000*l.* sterling, the iron produced from a small portion of our country is already equal to one-seventh of the value of the agricultural produce of the whole of Scotland—thus proving the great importance of this trade to the prosperity of the country.

Until lately Scotland was a poor country, and far behind our rich neighbour England, where mining and manufactures flourished long before they were known with us: now, however, we are in a very different position—we are possessed of the capital which we formerly wanted; and with "the sinews of war" in our hand, what may we not anticipate from Scottish energy and enterprise? May we not hope to see mining operations carried on as extensively in other metals as in iron? Already a commencement has been made by Col. M'Adam Cathcart, who lately opened up lead mines on his estate in Ayrshire, producing from 6000 to 8000 tons of lead annually, worth 18*l.* per ton.

The Highlands (embracing two-thirds of the area of Scotland) abound in copper, lead, Hæmitite, and other valuable mines, but as yet these treasures are a sealed book. The railroads now going on and projected for opening up the Highlands will afford great facilities for developing these resources; and if a tithe of the attention is bestowed in searching out and bringing into operation the mines of our Highlands as has been given to Wales and Cornwall, we will doubtless have equally gratifying results to notice some day.

But we must now speak of the iron trade of our Firth:—Within the last three years the attention of two of the most extensive ironmasters of the west has been directed to the mineral fields on the banks of the Firth—we refer to Mr. Alison, of Blaircastle, and Mr. Wilson, of Dundyvan; the former having established, in conjunction with one or two other gentlemen, an extensive work near Dunfermline, called the Forth Iron-Works, where there are already four furnaces in blast, producing 80 tons of metal per day; and as new furnaces are in progress of erection, we may shortly expect to find eight furnaces in blast at those works. At Borrowstounnes Mr. Wilson has also erected a large work, with four furnaces in blast, and more in contemplation; these works have been successfully brought into operation, and the iron has been proved to make a superior quality of malleable iron. We observe that the merchants and manufacturers of Dunfermline have taken the manufacturing of the iron into their own hands, and have established a joint-stock company for that purpose, called the East of Scotland Malleable Iron Company, with a capital of 100,000*l.*, and appointed Mr. Alison of the Forth Iron-Works their chairman. There is abundance of coal around the town, and pig-iron will be got in the neighbourhood, from the Borrowstounness and Forth Iron-works, and the various iron-works proposed to be erected in the district—it is, therefore, evident that the site for the works could not have been better chosen.

From the great demand for rails, the price of malleable iron rules higher in proportion than pig-iron. Hence that trade presents a greater inducement to capitalists than, perhaps, any other that we are acquainted with. As a very good proof of this, we have only to observe what the ironmasters in the west are doing. One extensive company, long exclusively in the pig-iron trade, about five years went into the malleable iron trade, to the extent of using half their produce of pig; and, after five years' experience of that trade, they have doubled their forges and mills, so as to consume their entire make of pigs. Other extensive makers have joined together, and erected a work upon a great scale near Hamilton, of which we are informed that Messrs. William Baird and Co., Messrs. Merry and Cunningham, &c., were the promoters and principal shareholders, which augurs well for its success. This work only came into operation about a month ago; and such is the estimation that the speculation is held in, that the shares of that company are not to be had in the market; the price is nominally quoted at 14*l.* per share premium, but none of the holders will part with their shares at that price. The East of Scotland shares are also in great demand, at advancing premiums.

As the price of manufactured iron will, doubtless, continue to be highly remunerative, owing to the great demand for railways in this and foreign countries, it only requires that the works should be well managed, to enable the directors to declare large dividends; and as the management is in the hands of experienced ironmasters, there can be no doubt on that point. We observe, by the prospectus of the East of Scotland Company, that the committee expect to pay 18 per cent. dividend, under ordinary circumstances—a rate of profit, or even less, that would at once double the value of the shares.

It is contemplated to appoint an additional controller of the steam machinery of the Royal Navy, and Capt. Ellice will aid as the practical engineer in this department. Mr. Lloyd, chief-engineer at Woolwich Dockyard, is named for the appointment of the steam machinery branch, with offices at the Admiralty. Mr. Rigby is appointed second-assistant to the chief engineer at Woolwich Dockyard, the increase of the works requiring the addition of a second-assistant to the department.

SEVERE COLDS AND THEIR INJURIOUS EFFECTS READILY REMOVED BY HOLLOWAY'S PILLS.—This fine medicine will do more real service in three days in the cure of the most obstinate coughs and colds, even when seriously affecting the lungs, than any other medicine in the universe; and where there is much accumulation of phlegm in the respiratory organs, by these pills it is immediately carried off through the bowels; thus the patient gets instantly relieved, and a radical cure is ensured by a little continuance in the same course. The asthmatic, or those suffering from tightness of the chest, or difficulty of breathing, should try the virtue of this surprising remedy. Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—The 28 fm. level, south of flat-rod shaft, is without alteration. A winze sunk 4 fms., in a cross-cut north of 18 fm. level, has intersected a part of the lode about 12 in. wide, producing half a ton per fm. The 18 fm. level, west of flat-rod shaft, is producing about 1½ tons per fm., the part of lode working on tribute behind end looks well. The 12 fm. end, west of flat-rod shaft, produces about 1 ton per fm. We have still good stones of ore in adit end, but nothing regular. Our present quantity of lead dressed is from 35 to 40 tons. I thought to have got a vessel this week to take it, but could not succeed; however, should the weather be favourable in the ensuing week, we will, I hope, ship 40 tons, or rather more.—T. Angove: Jan. 15.

BEDFORD UNITED.—At Wheal Marquis, the lode in the 18 fm. level east is 18 in. wide, and worth 12*l.* per fm.—very kindly. There has been no lode taken down in the 70 fm. level east, since last report. The lode in Michell's winze, in this level, is about 18 in. wide, producing some good saving work. In the 58 fm. level east, the lode is 18 in. wide—capel, spar, mundic, and spots of ore in places; and in Crew's rise, in this level, the lode is 2 ft. wide, composed of mundic, spar, and ore—saving work. At Wheal Tavistock, the lode in the 47 level east is 15 in. wide, composed of mundic, spar, and, ore—very promising. The lode in the 35 fm. level east is 18 in. wide, and without alteration. The south engine-shaft is 24 fms. 2 ft. 6 in. under the surface, lode still split 6 ft. wide, producing good stones of ore, and very kindly. The lode in the adit level east continues much as last reported, a strong promising lode.—J. Phillips: Jan. 19.

CAIRNSMORE.—Driving the 30 fm. level, west of Stewart's shaft, the lode is worth 3*l.* per fm.; the same level east is worth 30*l.* per fathom for lead. The roof of the 20 fm. level east is worth 10*l.* per fm.; the stopes in the roofing of same level west are not so good as hitherto—say worth 30s. per fm. The lode in the adit end is 2½ ft. wide, composed of spar and flookan principally.—Jan. 9.——The lode in the end, driving west, at the 30 fm. level, is 3 ft. wide, worth 6*l.* per fm.; the end driving east, at same level, is worth 30*l.* per fathom for lead. The stopes in roof of the 20 fm. level east, are worth 7*l.* per fm.; other stopes, in roof of this level, having become poor, are suspended; the bottom levels are now extended, to make room sufficient to resume sinking Stewart's shaft—arrangements are being made to do this accordingly—also, the stuff being cleared in the 20 fm. level. Four men are appointed to drive this end east, and six men to resume sinking the winze under this level. The lode in the adit end is without much alteration.—J. Buzzo: Jan. 16.

CUBERT SILVER-LEAD.—The sumpmen are still employed in cutting ground below the 35 fm. level for bearers and cistern. In the 25 fm. level, driving east, the lode is 18 in. wide, producing a small quantity of ore, but not rich; in that level, going west, the lode is 20 in. wide, the whole being good saving work for lead (a very promising level.) In the 15 fm. level west, the lode is 15 in. wide, composed of mundic, spar, and lead, greater part saving work; driving east here, the lode is 2 ft. wide, rich lookmg goosan, producing white and blue lead. Nothing new in the tribute department. It affords me much pleasure to say, that the appearances throughout the mine are very encouraging.—R. Rowe: January 15.

COOK'S KITCHEN.—In Chapple's lode, at the engine-shaft, we have completed the balance bob in the 126 fm. level, which is now working, and which relieves the pitwork of a great strain, and, consequently, affords considerable relief to the engine; we may, therefore, reasonably indulge the hope of having in future to contend with a less number of such expensive breakages as we have hitherto been too much accustomed to in this department. Our sumpmen, who were engaged about the balance bob, have again resumed cutting the plat in the 180 fm. level; in the 180 fm. level west there is little alteration since my last report—the part of the lode on which we are driving being about 3½ ft. wide, and worth 10*l.* per fm. The men who were engaged in sinking the winze from the 160 fm. level to the 170 west, and those who were rising against them, are now working the ground through which they have passed at a tribute of 5*s.* in 20*s.*; and, as they have *every* facility for breaking a large quantity of stuff, which is of good quality, our next sale of tin will be much benefitted thereby. The winze sinking from the 148 fm. level to the 160 west is now down about 5 fms., where the part of the lode on which we are sinking is much the same as when last reported on, producing a small quantity of tin; in the back of the 160, where this winze will come down, there is a very good course of tin; in the 160 fm. level west, on the south part of Chapple's lode, the end is worth about 10*l.* per fm.; in the 148 fm. level east, the part of the lode on which we are driving is about 3 ft. wide, and worth 8*l.* per fm. In new east shaft, the part of the lode on which we are sinking, is 3 ft. wide, and worth from 5*l.* to 6*l.* per fm. In the 92 fm. level west, on Eudy's lode, the part on which we have been driving, is small and poor—but a part standing by the side is found to contain fine stones of tin; we have not, however, yet examined it sufficiently to speak of its value. There is nothing new in the 80 fm. level east, on north Tincroft lode. The Tincroft people are now vigorously engaged in clearing the adit to the south Tincroft lode. From the manner in which they are at present proceeding, we shall, in the course of the ensuing summer, be enabled to do something towards developing that part of our mine, which has remained hitherto completely untried, and which, therefore, offers a very fair field for our exertions. Our sale of tin for the present month amounts to 27 tons 18 cwts. 1 qr. 25 lbs., producing 1488*l.* 13*s.*—J. Vivian: Jan. 18.

DEVON AND COURTNEY.—At the south lode, we have cut a small branch in the engine-shaft underlaying north towards the lode, about 4 in. wide, which contains stones of copper ore, and some malleable copper; if the lode continues its regular underlay, this branch will intersect the lode just where our 90 fm. level cross-cut will come in. The ground in the deep adit is getting better for driving; there is no improvement in the lode since my last. At the north lode there is very little difference in the appearance of the lode in the shaft, the ground is something better for sinking. The ground in the adit is much harder; the lode is increasing in size, with a branch of mundic 6 in. against the south wall; the lode in the rise in the adit is not looking so good as last reported.—John Job: Jan. 19.

EAST TAMAR.—At Whitson, we have sunk 28 ft. below the 54 fm. level in Hitchen's shaft—ground hard for sinking; the lode in the 54 fm. level south is 18 in. wide, fluor spar and ore; the lode in the 54 fm. level north is 20 in. wide, saving work. The lode in the 46 fm. level south is 18 in. wide, work of a course quality. At Furzehill, Harrison's shaft is sunk 35 ft. below the 38 fm. level—lode 2 ft. wide, fluor spar and silver-lead ore. The lode in the 38 fm. level north is 2 ft. wide, saving work; the lode in the 38 fm. level south is 20 in. wide, work of a coarse quality. The lode in the 20 fm. level south is 18 in. wide, producing some good stones of silver-lead ore.—B. Robins.

EAST CROWNDALE.—The 30 fm. level east still continues on the same kind of ground—the appearance of this level for several fathoms driving has been very similar with regard to the composition of the lode, although the past week it has increased nearly a foot in width—it is now 2 ft. wide, composed of flookan, and spar at times. On the cross-course south, in the 20 fm. level, the ground is much improved—the appearance of the cross-course is pretty much the same as when last reported on; in sinking, to cut the lead lode, the ground is harder than calculated upon; but, from appearances, a change is expected shortly. In our new engine-shaft the ground is much the same as usual, and in good course of sinking.—S. Paull: Jan. 16.

ELLBOROUGH.—I now beg to hand you my report for the past three months, my last being in October. At the north lode, two men on tribute in October month, raised about 6 tons of barytes, and 4 cwts. of lead; in consequence of the severe weather, nothing has been done there since—it being so very near the surface, and by that means very wet and cold—the lode has much the same appearance as when in course of working; should the samples of barytes, now in London and elsewhere to be tested, find us a suitable market, with an advance of price, I would propose extending a level west under the old workings, at the bottom of the shaft (now 14 fms. deep), in order to set tribute pitches at a lower tribute than has heretofore been done, and to give estimates of the quantity that could be raised monthly—from present appearances very large quantities could be raised. At Chapman's works, in October, part of November, and Dec., two men stoping, raised about 3 tons of lead; they are still stoping, and the lode bespeaks much the same in future. Vivian's shaft, on Vivian's lode, has been cut down from surface about 6 fms. through old workings, and sunk below in new ground about 4 fms.—making the total depth 10 fms.; in the new ground, we have found the lode very changeable, from hard to soft ground, also varying in size, composed chiefly of flookan, and spar, with good stones of lead. Bickford's shaft, on Bickford's lode, has also been cleared up—we found that to be about 8 fms. deep; lode in the bottom of it small, but lead in it of good quality—but nothing can be done here without a shaft. Vivian's shaft, nearly perpendicular, I consider will be of great advantage for the working of this, as well as seven or eight other lodes, which it will intersect within 60 fms., and three or four within 30 fms. sinking. The lead, calamine, ochre, and barytes, now on the mine, I compute to be nearly equal in value to what our expenditure will be for the next three months. Our present prospects much the same as when last reported.—R. Trevithick.

GREAT WHEAL MARTHA.—The operations at the new mine are progressing satisfactorily, and the shaft is now sunk 33 fms. 5 ft. below the adit level. At Sherrell's Bottoms, we have put down a pit on course of the lode, as deep as we could conveniently sink it; and, finding the lode to be large and regular, and of a promising character, we have commenced opening on it at the foot of the hill, for the purpose of extending a level west on its course, when it may be proved at the depth of about 50 fms., without the aid of machinery.—J. Prince; T. Penaluna: Jan. 16.

GUNNIS LAKE.—At Chilworthy, Bailey's engine-shaft is 3 fms. 5 ft. 2 in. under the 12 fm. level, the lode therein is from 3 ft. to 4 ft. wide, composed of goosan, peach, and spar, with good stones of ore in places. The lode in the 12 fm. level east is 2 ft. wide, goosan, spar, and good stones of black and yellow copper ore; in this level west there has been no lode taken down.—William Richards: Jan. 19.

GREAT MICHELL CONSOLS.—In the 22 fm. level, east of the engine-shaft, the lode is chiefly gossan and spar; in this level west the lode is composed of gossan, spar, mundic, with black and yellow ore; the engine-shaft is down below the 22 fm. level, 5 fms. 1 ft. We sampled, yesteday, 20 tons of ore, raised from the 22 fm. level.—T. Richards: Jan. 19.

GWINEAR CONSOLS.—The ground continues much the same as it has been for the last fortnight—driving about 3 fms. a week towards the lode. There has been some very promising discoveries here this week—veins and floors, which I consider leaders to the great lode, composed of rich copper, lead, and mundic.—Hugh Stephens: Jan. 16.

HANSON.—By way of report this week, I beg to say we have again commenced driving the 32 fm. level, east of engine-shaft, on Stainsby's lode, in which the lode is 12 in. wide, composed of spar, mundic, jack, and ore. At flat-rod shaft, in stoping the bottoms, under 22 fm. level, on Stainsby's lode, the lode is 18 in. wide, producmg about 1½ ton of ore to the fm.; in the back of 22 fm. level, on Stainsby's lode, the lode is 22 in. wide, a good lode for ore.—Z. Williams: Jan. 18.

HAWKMOOR.—In the 15 fm. level, east of Hitchins's shaft, the lode continues large, producing good stones of ore—a very kindly lode.—P. Richards: January 19.

HERODSCOOMBE.—At the above mine we have discovered a lode running nearly north and south, we sunk two pits on it in the valley, about 6 ft. deep, from whence we have taken several stones of silver-lead ore of superior quality, of which Mr. Jenkin's assay is annexed—lead produce, 60½ per cent.; silver, 50 ozs. to the ton of ore—I thought proper to bring in an adit to it, which will intersect it 3 fms. deep in the centre of the valley, of which we have open cut about 35 fms., and have 20 fms. to drive close. I expect to have this adit up to the lode the latter end of February next, and it is supposed to cost about 30*l.*; my object for driving this level at this small depth is to ascertain the size and quality of the lode in the valley, as well as under the hills. The lode is running in right angles with the valley and the adit; this adit level is of great value to the concern, inasmuch as it will prove the lode 30 fms. deep, by driving 50 to 60 fms. on the course of the lode, north or south; at the same time, it will enable us to see the drifts of the shoots of ore, the underlay of the lode, and where to place our engine-shaft.—J. Medlen.

HOLMBUSH.—The shaftmen have been this week preparing to sink below the 120 fm. level on the course of the lode in the diagonal (or sump) winze, and will commence so doing in the course of next week. In driving the 120 fm. level, west of the great cross-course, we intersected a slide, 10 in. wide, dipping fast east, which has disordered the lode near it; but, as we are getting from it, the lode is gradually improving in size and value; it is now 14 in. wide, and worth 30*l.* per fm. We are getting the 120 fm. level, east of Hitchins's shaft, in course as fast as possible, to communicate driving in that direction also, as well as the 110. The lode in the rise, above the 110 fm. level, is 10 in. wide, and worth 8*l.* per fm. for copper; the lode in the same level, driving south, is 16 in. wide, composed of flookan, spar, prian, and stones of lead, opening ground that will set at a moderate tribute. The lode in the winze, sinking below the 110 fm. level, between the great cross-course and the slide, is 14 in. wide, and worth 9*l.* per fm.—this winze is 7 fms. 4 ft. below the bottom of the 110 fm. level. The lode in the 100 fm. level south is 4 ft. wide, composed of flookan, spar, prian, and stones of lead—a very promising lode. There is still a pretty deal of water issuing from the end.—W. Lean: Jan. 19.

MENDIP HILLS.—The lode in Stainsby's shaft has become much smaller during the past week—its breadth at present being about 2 ft., composed of spar and iron, with a little flookan, down 12 fms. 1 ft. below the 38 fm. level; the ground continues hard for sinking. In the 38 fm. level south the lode is about 7 ft. wide, composed of quartz, flookan, and limestone, with particles of lead at times; the ground is favourable for driving. In the slag department we are progressing favourably with the trench, opened about 12 fms. in length, the deepest part 9 ft.; we have cut through two beds of very good slags, one about 3 ft. wide, the other not so much—this is rather better than I expected to find at this point, it being so far down the valley. My object for commencing so far down is to prove whether we have any slags in this part worthy of notice; also, to lay open this trench for the purpose of carrying off the water, which we shall find to be of great benefit, as we proceed up the valley.—J. C. Harpur.

PENTUAN WHEAL MARY.—The lode mentioned in my last report is from 4 ft. to 5 ft. wide, showing a fine gossan, with some good stones of copper ore—a kindly lode, indeed. We are driving our adit level towards these lodes as fast as possible, and hope to see the main lode in a short time.—James Chynoweth: Jan. 20.

SOUTH TAMAR.—The engine-house is up, ready to be covered in, which will be done in a few days; it will be then ready to put in the machinery as soon as Mr. West thinks proper. We have cleared and secured 10 fms. more north in the adit level since last reported.—R. Rodda: Jan. 19.

SOUTH WHEAL MARIA.—The dam, or weir, across the Tamar River is completed; and we commensed sinking the engine-shaft on Monday last, by nine men, at 10*l.* 10*s.* per fm. The ground has a nice mineral appearance, and we calculate on sinking about 6 ft. per week.—George Francis: Jan. 21.

SOUTH WHEAL TRELAWNEY.—Soby's lode in the adit south is from 16 in. to 2 ft. wide, composed of white killas, spar, gossan, and mundic, of a kindly appearance. The ground in Snell's shaft is favourable, but water quick, which is much against us—sunk from surface 7 fms.—W. Jenkin: Jan. 18.

TAMAR SILVER-LEAD.—In the 160 fm. level, south of the shaft, there has been no lode broken since last report; in the same level, north of ditto, the lode is small and poor. In the 145 fm. level south, the lode is 3 ft. wide, composed of capel, with strings of ore; in the north end, in this level, we are also dissuing the lode. In the 135 fm. level south, the lode is 18 in. wide, rich work, and of a very promising character. In the 125 fm. level the lode is 2 ft. wide, composed of can and ore, good saving work. Our tributers are working with good spirit; we hope the greater part of them are making fair wages. At North Tamar, in the 70 fm. level, lode 2½ ft. wide, unproductive. In the 60 fm. level the lode is 18 in. wide, interspersed with ore throughout. In the 50 fm. level the lode is 1 ft. wide, work of a course quality.—J. Sprague: Jan. 18.

TAVY CONSOLS.—The lode in the shaft is much altered for the better, upwards of 2 ft. of the lode is now composed of mundic, with good stones of ore in places, which appears to be opening, and extending in breadth as we sink. I am also glad to say, the lode in the end of the 12 fm. level is much improved—we are carrying from 4 to 5 ft. wide all saving work.—Jan. 6.——The lode in the shaft still continues composed of mundic, spar, with spots and some very good stones of yellow ore. In the 12 fm. level, the lode is same as last week—set a pitch yesterday in the bottom of the shallow adit, on the lead lode, at 10*s.* 6*d.* in the 1*l.*, the party to dress their ore; and a pitch on the new lode, in the deep adit, at 12*s.* in the 1*l.*, the parties to dress the ore. We have about 6 tons of ore dressed on the floors, and if we could get hands, might soon have another sampling; the pitch at Little Duke, is looking well—they have a lode upwards of 6 in. wide, nearly solid ore. I have received this week from Messrs Williams and Co., 131*l.* 19*s.* 9*d.* for the last sampling of ore sold, 26 tons.—A. W. Martyn: Jan. 13.

TINCROFT.—We have done but little in either of the ends in the 100 fm. level since my last; the sumpmen have been engaged casing shaft, &c. The lode in the 90 fm. level east is 20 in. wide, unproductive—being disordered by cross branches; the lode in the 90 west is 20 in. wide, producing some good quality ore, worth about 12*l.* per fm. The lode in the 80 east is 18 in. wide, producing some ore, and kindly; the lode in the 80 west is 2½ ft. wide, worth 25*l.* per fm. The 70, 60, and 50 ends are producing but a small quantity of ore; on the whole, our pitches are looking better. In the south mine the 152 west is worth about 18*l.* per fm. The 142 east is worth 25*l.* per fm. The 120 is worth 16*l.* per fm. We are still driving south; in the 110 we have intersected two small branches, which contain good quality tin ore; the pitches in this part of the mine are producing good quality tinstuff, and tributers making fair wages at their different tributes. We have cleared and secured the Wheal Providence adit to within 25 fms. of Wheal Providence lode, and hope soon to complete. We expect to sample upwards of 400 tons of copper ore on Wednesday next. Chapple's lode is worth 30*l.* per fm.; in a winze, we are sinking in the bottom of the 90. The rise in the back of the 100 is worth about 10*l.* per fm.; here we have not the full size of the lode, being in want to communicate for air—on the whole, our prospects are very cheering.—W. Paull.

TRELEIGH CONSOLS.—Christoe shaft, below the 100 fm. level, is sinking in the country. In the 100, east of ditto, the lode is 2½ ft. wide, worth 10*l.* per fm.; in the 100, west of ditto, the branch is small, no ore. In the winze, below the 90 east, the lode is 4 ft. wide, worth 30*l.* per fm.; Garden's shaft, below the 90, is sinking in the country; in the rise, above the 90, west of ditto, the lode is 2½ ft. wide, worth 4*l.* per fm., rather disordered by cross branches. In the winze, below the 80, west of ditto, the lode is 3 ft. wide, producing stones of ore; this is sinking in the rise above the 90; in the 70, west of Garden's, the lode is 14 in. wide, no ore; in the 70, west of Good Fortune, the lode is 4½ ft. wide, worth 8*l.* per fm., and very promising. In the 60, west of Symons's, the lode is 2 ft. wide, with stones of ore. In the 50 west, on north lode, the lode is improved in size, now 18 in. wide, no mineral. In the 44, west of Symons's, the lode is 2½ ft. wide, worth 6*l.* per fm.; it consists of ore, mundic, jack, &c., very kindly. In the 20, west of ditto, the lode is 1 ft. wide, not much done this week. The adit cross-cut south, driving south to the west shaft, we expect to hole in a few days.—W. Symons: Jan. 16.

UNITED HILLS.—In the 90 fm. level, the lode in the eastern end is 3 ft. wide, worth 6*l.* per fm.; in the western end, lode 2½ ft. wide, worth 10*l.* per fm., not looking quite so well as when last reported; in the stopes, the lode is 2½ ft. wide, worth 30*l.* per fm. In the 80 fm. level, east of Williams's shaft, lode 3½ ft. wide, worth 10*l.* per fm; in the east of cross-cut, lode 15 in. wide, worth 12*l.* per fm. In the 70 fm. level, eastern end, lode 6 ft. wide, worth 10*l.* per fm.; in the eastern shaft the lode is 3½ ft. wide, worth 18*l.* per fm. In the 60 and 50 fm. levels, no tutwork. In the shallow adit, lode 3 ft. wide, producing but little ore. At Wheal Charles, in the 50 fm. level, lode 18 in. wide, poor. In the 40 fm. level, east of Gibson's shaft, lode 3 ft. wide, worth 16*l.* per fm.; in the winze the lode is 4½ ft. wide, worth 14*l.* per fm.; in the stopes the lode is 3½ ft. wide, worth 14*l.* per fm. At Wheal Sparrow, in the 40 fm. level, lode 2 ft. wide, worth 4*l.* per fm. In the 30 fm. level, lode 3 ft. wide, unproductive. At Turner's shaft, lode 2 ft. wide, worth 6*l.* per fm. In the 20 fm. level, no tutwork.—T. Trevenen; R. Williams: Jan. 18.

VICTORIA.—The engine-shaft is down 4 fms. 3 ft.; the ground through which we are sinking is much the same as when last reported. We are embracing every opportunity of getting on with our surface work as fast as possible; but, from the shortness of the days, and the wet time which has been, it has prevented us from getting on with our work as fast as I should wish.—J. Chynoweth: Jan. 20.

WEST WHEAL JEWEL.—In the 115 fm. level, east of Hodges's cross-course, on Wheal Jewel lode, the lode is 15 in. wide, producing some more ore than when last taken down. In the winze, in the bottom of the 85 fm. level, west of Hodges's cross-course, on the same level, the lode not taken down in the past week; in the 85 fm. level cross-course, south on Williams's cross-cut, we have cut the south lode in the past week; the lode is small, but promising, producing some good ore. In the 12 fm. level, west of Hodges's cross-course, on Tolcarne tin lode, the lode is 2 ft. wide, worth 17*l.* per fm.; in the winze, in the bottom of this level, on the same lode, the lode is 15 in. wide, worth 15*l.* per fm.; in the winze, in the bottom of this level, east of Quarry shaft, the lode is 15 in. wide, worth 7*l.* per fm.; in the 12 fm. level, west of old sump-shaft, on Tolcarne tin lode, the lode is worth 6*l.* per fm.; the winze, in the bottom of deep adit, is communicated to the 12 fm. level; the men are put to stope the back of the 12 fm. level, west from winze, at 5*l.* 10*s.* per fm.; these stopes are worth 35*l.* per fm.

WEST WHEAL MARIA.—The ground in the eastern engine-shaft is little improved for sinking; the lode in this shaft still continues its size, about 5 ft. wide, with stones of ore in places. At the western engine-shaft, the water is drained 7 fms. 3 ft. below the 44 fm. level—that is as deep as the stuff in the shaft, and will allow us to drop for the present time, or until the sumpmen have finished cutting down, and securing, dividing, casing the shaft, and putting in footway, which we hope to complete in the course of another week—then we shall resume clearing up the stuff in the shaft to get to the deepest point of our operation. I think there is from 3 to 4 fms. of stuff in the shaft.—Thomas Rodda: January 19.

WHEAL ADAMS.—In the rise, in the back of the 50 fm. level, on the eastern lead lode, the lode is 2 ft. wide, worth about 12*l.* per fm.; we expect to hole this rise this week through to the 40 fm. level—then it will lay open a large piece of ore ground; the 50 fm. level, driving south on the western silver-lead lode, is much improved this last week—lode 2 ft. wide, worth 10*l.* per fm.; in the bottom of this end we have a good bunch of lead, about 1 ft. high; the rise, in the back of the 50 fm. level, on the western lode, is holed to the 40 fm. level. In the 40 fm. level, driving north on the western lode, the lode is 2 ft. wide, worth 7*l.* per fm. The men that was in the winze that we have holed, we have put them to drive the 40 north. The cross-cut, driving west, at the 28 fm. level, we have got through the lode—we have driven through a large gossan lode, about 6 fms. wide, in the middle of it. We have lead ground that will work at moderate tribute; we have open lead ground that will work, when it is convenient, on a moderate tribute; most of the tribute pitches are looking well. I think that most of our tributers are getting fair wages. We have now 18 tribute pitches working—the pitches ranging from 7*s.* to 12*s.* in 20*s.* If we could tell where to put the stuff, we could set more. We have tributers coming every day to seek for work: I have some pitches that I could set them in north part of the mine. If we could dress the stuff by setting the north ground, it would be laying open the north part of the mine. We have at the surface, and at the cellars, better than 60 tons of lead. Our floors are so full that we do not know where to put the stuff; if the weather prove favourable, we shall be able to get on with our dressing department again; but the weather has been so bad that we cannot stand the cold to half work—but, notwithstanding that, we have been doing what we can. We ought to be driving our 60 fm. levels north and south, to throw open the mine downwards; the 60 south ought to be driven at once, to get in under the 50 fm. level, on the western silver-leaf lode, which is gone down in the bottom. I think, on the whole, that our prospects are looking remarkably well.—T. Moyle: Jan. 19.

WHEAL AGNES.—The lode in the adit level west is 18 in. wide, saving work. The lode in the adit level east is 20 in. wide, producing stones of ore, but not rich.—B. Robins: Jan. 19.

WHEAL BLENCOWE.—Since our great wheel has been working, I am happy to state that she has given us very great satisfaction—she answers our purpose very well; there is no doubt but every shareholder will soon discover the advantage of having a wheel of such power, to what it would be to support a fire-engine; we can now work on the cheapest system. Since we suspended our underground operations, below the adit level, we have stamped about 120*l.* worth of tin, which we have now in the mine, most of which we have raised from the old backs above the adit level. The water being now forked in the 10 fm. level, we have commenced to work both on tutwerk and tribute. In the course of a few days we expect to fork the water in the 20 fm. level, when we intend to commence to sink the engine-shaft, to extend the levels and stope the backs with all speed. The ground in the engine-shaft is very favourable; if it continues, we can sink 10 fms. in the space of three months, without the application of timber. We are now getting on fast with the erection of stamps at the old engine wheel, where we shall have plenty of stamping power.—J. Dale.

WHEAL CONCORD.—The lode in the 28 fm. level west is now 3 ft. wide, producing good stones of lead; and the other levels, &c., are without important alteration.—J. B. Clymo.

WHEAL CURTIS.—We this day commenced placing the spring beams and guarder in the engine-house, and we purpose to begin mounting the engine on Monday next. The masons are now building the stack for the engine-house, which is at present about 9 ft. above surface; their great object is to get the engine at work with the utmost expedition. Vegan's shaft is now 10 fms. below adit; the cross-cut from it to John's shaft, at the adit level, is completed. Crase's flat-rod shaft is sunk and completed within 6 ft. of adit. Another flat-rod shaft, on the Charlotte lode, is sunk 6 fms., and about 8 more will reach the adit level. The miners and mechanics are now working night and day in fitting up the machinery, in order to fork the mine as early as possible.—J. Fegan: Jan. 20.

WHEAL LOUISA.—We are still driving our cross-cut towards the lode at the 20 fm. level, being in 6 fms. 3 ft.; but, in consequence of the lode taking a more perpendicular direction, it has prevented us from cutting the lode as early as we anticipated. Since my last report, we have cut a branch about 9 in. wide, running parallel with the main lode; this branch is to be seen in the level above, 2 fms. apart from the main lode: if the lode should improve from adit to the 20 fm. level, as this branch has done, we shall have a first-rate mine. Adit end south as last reported.—J. Chynoweth: Jan. 20.

WHEAL WALTER.—An improvement has taken place within the past few days in the B lode, from which something may be expected.—J. Davey: Jan. 21.

FOREIGN MINES.

IMPERIAL BRAZILIAN MINES.—*Gongo, Nov.* 13.—I am happy to say, that the late parching drought has been succeeded by copious and general showers. All Nature is refreshed, our fears of famine are dispelled, and the prices of provisions must inevitably and rapidly fall. I am sorry to say, the mine has not presented a single alteration worthy of notice. The recent rains enable us to drain Vesey's shaft, from which all the machinery will be removed during the ensuing week. *Nov.* 23.—Our gold troop, under the command of Capt. Pengelly, and escorted by the miner, Ambrose Quick, left this place on the 21 inst., on its way to Rio. The remittance consists of 48 lbs. 4 ozs. 8 dwts. 5 grs. of Gongo gold, and 4 lbs. 9 ozs. 6 dwts. 15 grs. of gold from Catta Preta, being the last—together, 58 lbs. 1 oz. 14 dwts. 20 grs. troy, exclusive of the Government duty of 10 per cent. levied here. The rains, though abundant for the crops, are not yet sufficient to enable us to drain the mine and remove the materials. I have still to deplore the continued poverty of the mine, in spite of our researches in every part, which seems to give the greatest promise of gold; no alteration worthy of notice has taken place since my last.—W. J. Henwood.—Gold workings from 1st July to 21st Nov., 1846, 92 lbs. 2 ozs. 16 dwts. 8 grs.; from Catta Preta, 8 lbs. 2 ozs. 1 dwt.—100 lbs. 4 ozs. 17 dwts. 8 grs.

Balleswidden.—We have been requested to correct an error we had fallen into, in stating the profit paid by this mine in 1846—it should have been 3775*l.* 16*s.*: the shares are 1624ths.

Tresavean.—Since our last, we have been advised of a considerable improvement having been discovered in the bottom level of this mine; the lode is stated to produce from 12 to 13 tons per fathom, and considered worth near 9*l.* per ton; should this course of ore continue, there is little doubt of her again taking the once prominent position she held for so many years in the ticketing papers. The 176 fm. level has also improved.

Trew Mine.—A short time since, a lode of rich lead was discovered in this mine, and its prospects were represented as very cheering. It is now stated that the men are raising a large quantity, the vein being of great thickness; the quality, also, is excellent.

Royal Mount's Bay Mine.—We understand that the council of His Royal Highness the Prince of Wales has granted to Mr. G. Jennings, jun., a mining sett below the high-water-mark, adjoining Penzance and Chyandour; and that Mr. Jennings has commenced operations, by taking leases of land adjoining the Penzance Gas Company's works, and other property conveniently situated, to explore the silver, lead, and copper lodes said to be there; and a sump shaft is now being sunk, with a view to explore and effectually work the lodes under the sea. We hope that the speculation will prove successful, as it will be the means of giving much employment to many labourers of this town and neighbourhood.—*Falmouth Packet.*

BUCKFASTLEIGH OLD COPPER MINE.—The workings are progressing most satisfactorily here; in the 40 fm. level west the lode is 7 ft. wide, with leader of ore, 12 in. wide, solid, and the remainder part good saving work; the operations are confined to driving the 30, 40, and 50 fm. levels, in which the lodes are improving daily. This mine is in her infancy, and presents every appearance of becoming the first in Devon at deeper levels. A great improvement has also taken place at Brook Mine, where they have just intersected the north lode at the depth of 22 fms., proving it to be a large strong lode, from 4 to 6 ft. wide, producing a large quantity of mundic, intermixed with ore throughout—indeed, a lode of most promising character, with strong indications of abundance of ore at deeper levels.—I believe, from present appearances of each mine, the returns will give the shareholders the greatest satisfaction for their outlay.

DEVON AND COURTENEY CONSOLS.—A general meeting of adventurers was held at the Central Hall, Plymouth, on Wednesday, the 13th inst.—PHILIP LYNE, Esq., in the chair.—The captain's report having been read, the accounts (showing balance inf. avour of mine, 492*l.* 17s. 3½d.) were produced, and, having been examined, were allowed and passed.—Explanation respecting Mr. Edwards's shares, forfeited at last meeting, being deemed satisfactory, they were, on the motion of Mr. Rendle, seconded by Mr. Luscombe, restored.—A statement of the present position and future liabilities of the mine being produced by the purser, it was proposed by Mr. Atkinson, seconded by Mr. Glubb, that a call of 10s. per share be made, payable immediately. On the motion of Mr. Stapleton, seconded by Mr. Stumbles, it was unanimously resolved, that "a weekly report of the state of the mine be forwarded to the *Mining Journal*, for the satisfaction of the shareholders."—The present committee of management was dissolved, and the purser authorised to call in the assistance of Messrs. Samuel and James Seccombe, whenever considered expedient; they on such occasions to be paid 21s. for travelling expenses.—Messrs. Seccombe fully assenting, were complimented, and thanked for their liberality, on this and former occasions. Thanks of the shareholders were voted to the late committee, and also to the chairman, when the meeting separated.—The following is the report, from Capt. John Job, read to the meeting:—The engine-shaft is 25½ fms. deep—in the last 4 fms. we have sunk through three branches of spar, two underlaying north, and one south, which have considerably been against the progress in getting down to the depth (30 fms.), at which we intended to drive to cut the gossan lode; the ground is now more favourable, and I am still of the same opinion, as I stated in my last report of the 4th November, that we shall cut the lode in March next. The ground in the deep adit is very hard, the lode is 3 ft. wide, composed chiefly of spar, with some good stones of copper. In the last month, four men did not drive but 6 ft. on the lode, and cut in north 2½ ft. to see if the ground would be easier for driving under the lode, but finding the ground not any thing better for driving, we have reduced the men to two, and put them to drive on the lode, giving them 9*l.* 10s. for 1 fm. Since the comparatively dry weather has set in, and finding the water decreasing, we resumed sinking the new shaft on the north lode (which is now 14 fms. deep), and shall continue to sink 2 or 3 fms. more, until the flat rods are complete, when we shall fix a standing lift and cut a plat; I fully expected that we should have completed the flat-rods before this, but not being able to get a mining carpenter sooner, and also the rough weather has been against us, which has caused the delay. The lode continues very regular, from 4 ft. to 6 ft. wide, producing good stones of copper and lead ores, as large as a man can lift. The shallow adit on the north lode, is in 40 fms.; in the last 12 fms., we have driven through a very promising lode, varying in size from 18 in. to 2½ ft. wide, which has produced about 4 tons of lead. The lode in the end at present is only 1 ft. wide, and poor, composed of flookan and spar; the ground is very easy, now driving for 1*l.* per fm. I have remarked, that when the lode is soft, it does not produce ore, but when the price for drawing has been from 35s. to 50s. per fm., then the lode is most productive. I have set a rise in the back of this level (on Friday last), in the centre of the orey ground, where the lode is 2½ ft. wide, which will produce about 600 of lead to the fm. After this month, our cost will be greatly reduced, as we shall not want so much materials, and also there will be less horse work.

HARROWBARROW CONSOLS.—Sufficient shareholders not assembling on Monday last, to form a meeting, the purser (Mr. S. B. Serjeant) effected an adjournment, rather than coincide in an attempted abandonment of the mine, as pressed by Mr. G. Carne and Capt. Cooke, being the only parties present.—The meeting now stands for Thursday next, the 28th inst., at Mr. Golding's Hotel, Callington—"for the purpose of determining on what course to adopt relative to the working of the mine, or the adjournment of the ensuing meeting for three months, until the tin lodes, &c., in Harrowbarrow Old Mine are proved, or the sale of the mine."

HERODSFOOT.—A general meeting of adventurers was held at the mine, on Friday, the 15th inst.—Mr. B. SAMBELL, in the chair—at which a statement of accounts to end of November was produced, showing balance against the mine of 727*l.* 13s. 10d.: included in the receipts was a sum of 322*l.* 10s., from sale of lead ores to Mullins and Co.—The accounts were passed, and a call of 2*l.* per share made, payable at the Devon and Cornwall Bank, Liskeard.—It was also resolved, that those shareholders who shall, within 20 days, "pay all calls made up to this day due from him to this mine, and pay to the purser, within the same period, the sum of 10s. per share, shall be entitled to a number of shares in Herodscoombe sett, not exceeding the number held by him in this mine, provided he shall, within the above period, forward to the purser the form of acceptance furnished, signed by his hand, and witnessed by another party, and not otherwise."—[A report on Herodscoombe Mine will be found among the Mining Correspondence.]—The following report from Capt. J. Medlen, dated Herodsfoot Mine, January 15, was read to the meeting:—We have driven the 72 fm. level 6 fms. on the course of the lode, and I find it to be about 2½ ft. wide, worth 8*l.* per fm., affording great encouragement, inasmuch as it has been found to improve in quality in the two new levels which we have sunk. The engine-shaft is 1 fm. below the 72 fm. level, and now being sunk for an 82 fm. level. The lode in the 82 fm. level, south end, is 1 ft. wide, worth 4*l.* per fm. In the winze, sinking below the 62 fm. level, nearly opposite the engine-shaft, 1 ft. wide, worth about 6*l.* per fm. In the stopes, in the back of the 62 fm. level south of the boundary line, 2 ft. wide, and worth 7*l.* per fm. In the 52 fm. level south, the lode is 1 ft. wide, producing fine mundic, but little ore.

MINING COMPANY OF IRELAND.—The ballot for directors of this company took place on Thursday, the 14th inst., when the following gentlemen were unanimously re-elected:—E. Atkinson, F. Barker, M.D., D. R. Blood, F. A. Codd, J. Dawson, I. English, J. Gray, R. R. Gwinness, Sir R. J. Kane, M. D., J. Magee, T. Mooney, J. Murphy, J. Perry, T. Pim, W. Stephens. We gave a full report of the proceedings at the meeting, in the Journal of last week.

NORTH ROSKEAR.—At the two-monthly account, held on the 11th inst., the cost for October and November was shown as 435*0l.* 9s. 2d.—By copper ores sold, 444*0l.* 3s. 8d.—Showing profit, 81*l.* 14s. 6d.; in purser's hands, from Sept. account, 200*5l.* 6s. 1d.; leaves now in hand, 208*7l.* 0s. 7d.

SOUTTON CONSOLS.—A general meeting of adventurers in this highly promising and legitimate undertaking, which is situated on the borders of Dartmoor, and close to the junction of the granite and killas district, was held at the mine on the 14th inst.—J. D. HASWELL, Esq., in the chair—for the transaction of general business; but more particularly to see the wheel and other machinery and erections which have recently been completed, for the purpose of immediately prosecuting the working of the mine. Previous to the commencement of business, the shareholders present walked over the ground, to see the wheel and machinery at work, and were all highly satisfied with their operation, and the manner in which the whole had been executed; the wheel performing its duty easily, by keeping the shaft dry with considerably less than one-fourth of the power of which it is capable—and the flow of water in the shaft being but little, no doubt was entertained as to its future execution. At the conclusion of business, the company sat down to a cold repast; and after a few appropriate toasts, including the absent shareholders, which were warmly responded to, and votes of thanks to the chairman for his zealous attention, to the contractors and workmen for the manner in which the wheel and other machinery have been put together, and to the committee for their efficient co-operation in aiding the agents in their duty, separated at an early hour, in confident anticipation of the success of the undertaking, encouraged by the discoveries recently made in the adit now being driven in the western end of the sett by a London company—several fine specimens of copper having been produced, which were taken out of a branch lode, closely resembling, and bearing all the characteristics, of the lodes in that well-known and highly productive mine in the same locality, called Wheal Friendship.—The following report, from Capts. B. Cooke and T. Teague, was read to the meeting:—We are happy to inform you, that we have completed the wheel, together with the line of rods, and the work in the shaft, the whole of which is working well, the water being in fork. The wheel performs its duty with ease and comfort, as you will have an opportunity of witnessing when on the ground to-morrow. We also beg to say, that you can now prosecute the sinking of the shaft, and accomplish the object for which it was commenced, which was to cut the lode at the depth of 30 fms. When we commenced operations, we did so by sinking one of the original shode pits to a depth of 10 fms.; whence we drove a cross-cut north 19 ft., nine of which were through the lode at right angles. We then drove on the course of the lode (magnetic east and west) 15 fms., where we again cross-cut it, and found it of the same width as at the commencement—viz., 9 ft. In the eastern end of the 10 fm. level the lode is not so compact as in the other parts, having some portion of capel and the country (killas) in it; but the western end, throughout the distance of 14 fms., is one mass of gossan. In the shallow part of the mine no copper was visible in the gossan, but by testing it we found that it did contain copper; and we are also happy to say, that we saw both black and yellow copper in the western end. Soon after we commenced our operations, some London adventurers took a sett to the westward of Sourton Consols; and, after satisfying themselves of the character and bearings of the lodes in their ground, they, by the permission of our company, commenced driving an adit for several fathoms across our sett; and, in so doing, they have cut several branches and lodes, one which is of great promise, having in both mundic and copper, specimens of which we lay before you for your inspection. They have still several fathoms further to drive before cutting our main lode, which they are doing with all possible speed.—Jan. 13.

THEVERGET AND BARRIER.—Statement of accounts for Oct. and Nov.:—

Treviskey.—Amount of ore sold 24th Sept., 1846				£931	18	9
Deduct 1-12th for lords' dues				79	6	1— 872 8 11
Received for materials charged Barrier, Oct. and Nov., 1846	£	14	17	8		
Ditto of J. Matthews, for materials		0	2	1—	14	10 9
Total				£	887	8 8
Labour cost for Oct. and Nov., 1846	£	469	13	10		
Tribute of ore for ditto		60	4	8		
Merchants' bills, &c., for ditto		191	14	10		
Treavean adventurers, engine cost for ditto		91	4	7—	803	17 9
Profit				£	83	10 11
Balance in hand end of Sept., 1846					239	16 11
Making a total of				£	323	7 10
Deduct dividend of 2*l.* per 120th share, declared Jan. 18, 1847					240	0 0
In hand, and to be carried to the account at the end of Jan., 1847				£	83	7 10

Report.—The 176 fm. level, 22 fms. east of the shaft, is unproductive. The 200 fm. level, 22 fms. east of ditto, is worth 24*l.* per fm. The 236 fm. level, 3 fms. east of ditto, is worth 27*l.* per fm. The 248 fm. level is driven 2 fms. into this sett; the lode is 2 ft. wide, producing some good ore, and is a promising lode. The winze in the 212 fm. level, east of the shaft, is down 7 fms. below the level, but is unproductive. The lode in the shaft, below the 236 fm. level, is 3 ft. wide, and worth 40*l.* per fm. We sampled, on Wednesday last, 332 tons of ore, and expect to raise 300 tons for January and February.

Barrier.—Amount of ore sold 24th Sept., 1846				£945	12	7
Deduct 1-14th for lords' dues				46	2	3— 899 10 4
Labour cost for Oct. and Nov., 1846	£	106	11	1		
Tribute of ore for ditto		80	18	2		
Merchants' bills for ditto		57	2	11		
Treavean adventurers, engine cost, &c., for ditto		47	9	0—	292	1 2
Profit				£	307	9 2
Balance in hand and of Sept., 1846					105	18 2
Making a total of				£	413	7 4
Deduct dividend of 3*l.* per share, declared Jan. 18, 1847					360	0 0
In hand, and to be carried to the account at the end of Jan., 1847				£	53	7 4

Report.—We have no tutwork bargains in the Barrier. From the tribute pitches we expect to raise ore sufficient to meet the water charge and other expenses of the mine.—J. JENNINGS: Jan. 18.

TREWALLACK.—At a meeting of adventurers, held at Pearce's Hotel, Truro, on the 8th inst., the accounts were presented, showing balance of 487*l.* 15s. 11d. due to the purser.—The accounts were allowed, and a call of 4*l.* per share made, to liquidate liabilities, and to further prosecute the mine.—The following report from Capt. John Lean was read to the meeting:—There has been no work carried on in either of our 30 fm. levels since my last, the men having been removed to sink the shafts from the surface on the adit end south, and from the adit to the 20 fm. level, our 20 fm. level is driving south of Edwards's shaft by four men, at 35s. per fm., the lode is large with spar, mundic, and sprigs of lead; we hope, in extending this level about 20 fms. further south, to reach some of the promising ground driven through in the adit level; our adit level south has been suspended for some time past, in consequence of foul air, we have now made a communication on this end, from our new shaft, which is nearly complete to the bottom of our adit, we shall at once resume the driving the adit end south, where, from the very great promise of the lode, we hope soon to lay open some more lead ground, in the direction of the elvan course, and we hope soon to be able to report more favourably.—Since the foregoing, a letter received from the agent on the mine states, that the adit end is resumed and again commenced driving, and is much improved. He adds, "We are breaking some very good work. I have broken some good stones of lead from this end to-day, and the ground very easy, so, on the whole, we are looking very well indeed in the adit end south."

WHEAL ROBARTS.—At a meeting of adventurers, held at Mr. H. Phillips's Illogan Churchtown, on the 6th instant, the accounts—showing a balance of 1*l.* 18s. 2d. due to the purser—were seen and allowed. It was resolved, that a call of 5s. per share be made and collected forthwith, for the future working of the mine.

WHEAL TRELAWNEY.—At the general meeting of adventurers, held on the 19th inst., the accounts were presented, showing the amount of September costs, 891*l.* 11s. 11d.; Oct., 857*l.* 4s. 10d.; balance against the company at the last meeting, held 27th October last, 231*l.* 16s. 9d.; amount paid to Mr. J. Hodge, on account of engine, 500*l.* = 2480*l.* 18s. 6d.—By lead ores, sold 28th Nov. last, to Messrs. Newton, Keates, and Co., 1952*l.* 1*l.* 10d.—leaving balance against the company, 528*l.* 11s. 8d.—The accounts having been allowed and passed, it was resolved, that in future, if any sand or other material is to be disposed of from the mine, Capt. Vivian name it to Capt. P. Clymo, and arrange with him as to price, &c.; and that a correct account be handed over to the purser, and the amount credited to the company.—The following report from Capt. Peter Clymo, Jun., was read to the meeting:—The lode in the 42 fm. level north is 3 ft. wide, and worth 12*l.* per fm.; in the same level south it is 15 in. wide, and at present unproductive. The lode in the 32 fm. level north is 2 ft. wide, and worth 20*l.* per fm.; in the same level south it is 2 ft. wide, and worth 10 per fm. per fm.; the winze sinking under this level north is suspended on account of water. Our stopes generally are looking well, and producing fair quantities of lead. At the new engine-shaft the sumpmen are cutting ground for fixing plunger-lift, and we hope to get the new engine to work in about a month from this date. We sampled on Friday last a parcel of ores, computed 130 tons.

MINE ACCIDENTS.

St. Ives Consols Mine.—As two brothers, John and William Richards, were engaged tamping a hole, the powder prematurely exploded, and W. Richards had an arm and leg broken, and otherwise injured, and fears are entertained as to his having lost the sight of both eyes. His brother escaped with a few bruises.

Whitehaven.—J. Hamilton fell down the shaft of Messrs. Wood and Steel's Colliery, Dearham, and was killed.

Derwent Iron-Works, Bishopwearmouth.—A roller, named Forster, was killed.

Oldham.—J. Bottomley was injured by an explosion in Messrs. Evans, Barber, and Co.'s Colliery, Edge-lane, Royton.

Tipton.—W. Morris and O. Worrall were killed by a fall of coal while working at Messrs. Morris's, Park-lane. Morris was nephew of the proprietor.

Stowheath, Wolverhampton.—M. Heywood was killed by a fall of clod in Messrs. Sparrow's Colliery.

Wyrley New Colliery, Cheslyn Hay.—S. Brierley was killed here.

Shut-End.—J. Grainger (10 years old) was killed while working in a colliery.

Leys Works, near Wolverhampton.—J. Roberts was killed by a fall of coal.

A FORTUNATE ADVENTURER.—There lives in Silesia, a peasant, named Gudulla, who was formerly a smuggler. One day the custom-house officers were in pursuit of him, and having fired, the ball passed through his right arm, which was obliged to be amputated. Gudulla, forced to resort to another calling, established himself in a village called Rita. He had only been there a few days before his fortune turned; and he had the luck of discovering a valuable zinc mine, called Mary's Mine, and it has now become one of the most profitable zinc mines of any in Europe. Gudulla having asked and obtained permission to work his discovery, this peasant, who can neither read nor write, is now in possession of a fortune estimated at 30,000,000 of thalers—*about four millions of pounds sterling!* Gudulla is unmarried; and being a foundling, having no relations or offspring, the whole of this immense property, according to the Prussian laws, will go to the King of Prussia. During his recent tour, the king visited Gudulla, who felt highly honoured by the visit. He is in good health for his time of life, being upwards of 60 years of age.

IMITATION MARBLE—INFRINGEMENT OF PATENT.—A case (Stevens *v.* Keating) of some importance was argued in the Vice-Chancellor's Court, on Monday; an injunction was moved for, to restrain the defendant from infringing a patent, originally granted in 1834, for manufacturing a cement, which was a good imitation marble, and was capable of receiving a high polish. The specification of the patent now vested in the plaintiff claimed a right of manufacturing a cement, consisting of gypsum, or chalk, or similar materials, reduced to powder, and mixed with a strong alkali, neutralised by an acid. By another patent, obtained in 1840, a mode was prescribed of mixing the materials in a solid state by the use of alum and such materials. The enjoyment of the patent was undisturbed till February, 1846, when the defendant took out a patent for a cement; and in his specification he appeared to treat the mixture of gypsum with an acid and alkali as an old thing, and claimed, as his own invention, the discovery of the use of borax as the best material for combining with gypsum by subjecting the materials to heat; and it was stated he had obtained a contract for supplying the new Houses of Parliament with this cement.—The counsel for the defendant contended that the specifications of plaintiff's patents were bad for generality and vagueness, and that defendant's was a distinct invention.—His Honour said there was no doubt that the plaintiff's patent had been infringed, if it were good. It had been 12 years in use, and having remained so long undisturbed, it was not to be set aside because of some objection to the language of the specification. The plaintiff had a *primâ facie* right, therefore, to the injunction; but he must be put on terms to bring an action forthwith to try the validity of his patent.

A quarry of granite has been discovered at Foxdale, Isle of Man, and last week the first shipment was made for Birkenhead, where it is to be used for the new docks now constructing there.—*Liverpool Mercury.*

CORNISH COPPER MINES.

TO THE EDITOR OF THE DEVONPORT INDEPENDENT.

SIR,—The remarkable effect stated in the City article of the *Times*, some days since, that the total profits from British Mines last year show a decrease of 56,612*l.*, as compared with 1845 (the total profit in 1846 being only 158,882*l.*, instead of 215,450*l.* in 1845), forcibly indicates the necessity of an immediate and a radical change in the smelting of the common ores of copper.

It is true, that the writer of that article attributes the falling off in a great measure to the Devonshire Great Consols having expended large sums on new works, and from the melancholy accident that befell East Wheal Rose, by which, the operations were stopped for nearly two months; but there is too much reason to believe the great falling off is due to competition with foreign and colonial copper ores. For it will hardly be denied that the foreign ores imported into Swansea are richer in *metal* than our own, and that the South Australian are richer even than the foreign ore. Hence, although the duty in this country on foreign copper, when smelted here, amounts on the average to 27*l.* per cent., or 23*l.* 12s. per ton, and to 10*l.* and 8*l.* 15s. respectively upon foreign imported unwrought copper (which duties almost completely prevent the foreigner from selling his copper in the home market), yet, from the greater abundance and purity of his ores, he competes successfully with us in India and other countries, where the differential duties are either but slightly in our favour, or not at all. The same remark applies with still greater force with respect to the copper from the rich mines of South Australia. In proof of this fact, 276 tons of ores were sold at Swansea on 11th Nov., the produce of the Burra Burra Mine in that colony; the prices varied from 17*l.* 4s. to 27*l.* 10s. per ton; although these prices are comparatively high, they are much under what would be given for ore containing 70 per cent. of copper, of which samples of great masses from the same colony have been received in this country; the duty in the United Kingdom on copper from that ore would not exceed 1*l.* 15s. per cent. The consequence of the whole is to lower the price of copper (unless there be an extraordinary demand for this metal, such as there has been for iron for so many years), thereby seriously affecting the value of mining property in this country. As the importations of foreign and colonial copper ores have been on the increase, and since upwards of 100 skilled Cornish miners left this port in the autumn, for the mines of South Australia, there will, unquestionably, be a further increase this year. And instead of their being any augmentation of the duties, it is more likely that there may be a reduction on ores, both foreign and colonial—such being in the spirit of the late modifications of the tariff.

It, therefore, behoves those engaged in mining pursuits to carry into effect improvements immediately, ere many of the mines are closed. Now, to those who are at all acquainted with the vast capabilities of the counties of Devon and Cornwall, it does seem surprising that they have not long ago taken the lead as pre-eminently in chemical manufactures as in mining. The spur of competition will henceforth, in all likelihood, make them as conspicuous in the former, as in the latter. With the single exception of coal (which, however, is obtained from Swansea or Newport, of the best quality for chemical purposes, at 6s. 6d. per ton, and the freight varying from 4s. to 7s.), the two counties possess far greater natural advantages than is possessed by the chemical manufacturers on the Tyne. Indeed, the great abundance of copper and iron pyrites, manganese, limestone of the finest quality, and china clays, existing in these counties, will sooner or later enable the Cornish miner to withstand the competition of all other countries, even though their ores be duty free, as is now the case with iron ore.

But in respect to improvements in the smelting. At present all the sulphur of the Cornish copper ores is completely lost; between 16 or 18 tons of coal are required, and about 18*l.* in workmen's wages, and rent, repair, &c., in making a ton of copper in South Wales. Now, a lesson might be taken with great advantage from the mode of reducing copper ore as practised in the Rio Tinto, in the south of Spain, where about 1800 quintals of copper are made annually, by a totally different process from that pursued at Swansea. By this process copper can be produced not only of a superior quality, but with hardly a tithe of the fuel required at that great emporium. I have myself found, when the sulphur of the British ores is saved and the copper extracted, it is worth while to use them when they contain only ½ per cent of copper.—W. M. BRESTHR.

South Down, Jan. 14.

CORNISH MINES.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Observing some remarks in your Journal last week, as affects Cornish mining enterprise, and which refers to proceedings taken with reference to some mines with which I am connected, and, as I am the party referred to by you in the article in question, I beg to place the particulars before you. I sold and transferred, according to the usual custom, certain shares in the West United Hills and Wheal Mary Mines, giving the ordinary transfer, and which, I may observe, has been in use for time immemorial. I have received a notice, from the Office of Stamps and Taxes, of penalty, to which I have subjected myself, according to the law laid down by them, in not having a stamp affixed to the transfer. This subject is one which applies to the mining world generally; and, as the matter is one of moment, I have only to observe that, while I shall readily uphold the mining interest, intimately connected as I am therewith, I shall be glad if that, through your columns, attention will further be directed to the subject. With the conviction that you will give insertion to this brief note in your columns, I am, &c., PAUL RABEY, Jun.

Great Winchester-street, Broad-street, City, Jan. 20.

SLATE QUARRIES IN WALES.—Among the many valuable mineral productions which abound in Wales, and to which we have had frequent occasion to direct attention, the veins or strata of roofing slate, as well as that applicable to building purposes as slabs, in the northern division of the principality, occupy, perhaps, the most prominent position, from the extent to which they are worked, and the number of individuals employed—there being, if we mistake not, upwards of 2000 persons employed at the Penrhyn Quarry; while the quality of the slate is universally known and admitted, both at home and abroad. It may be observed, that, while the use of lead, zinc, iron, &c., for covering buildings, has greatly increased during the past few years, yet we do not find that there is any falling off in the demand or supply of slate for such purposes—doubtless, attributable, in a great measure, to the increase of buildings; while the manufacture of slate slabs has very considerably increased, having come extensively into use for cisterns, vats, and other appliances—inasmuch that the supply is not equal to the demand; and hence an advanced price is obtained, which renders this branch more particularly lucrative. As evidence of the progressive increase of demand, we find, on reference to statistical detail, that an annual increase of from 60,000 to 70,000 houses is going on, which will be at once in itself convincing evidence of the healthy position in which the slate trade is at the present time—not to advert to the large fortunes which have been realised, or the increasing demand, as applies to our exports, more especially to the United States. Remarking on the advantages held out by slate quarries, it is right to state, that many causes operate, so as to prevent a rapid extension of the supply—among the most prominent of which, may be said to be the impracticability of developing a quarry to any considerable extent, without a vast outlay in the onset, upon unprofitable works—at least, such as may be for the permanent advantage of the quarry—but, at the same time, pressing unevenly on the current expenditure and returns, in which we need hardly say, the removing of the top burthen, and opening a new quarry, so as to enable the proprietors to meet a steady demand, forms one of the most important features. To this must be added the disadvantages which attach, in many cases, to the locality of the slate vein, whereby the heavy cost of transit at once places an insuperable bar against the quarry being worked with any prospect of profitable results. It is, we believe, generally known that much uncertainty attends the delivery of slate, arising not only from the extent of the demand, but the delay naturally attendant on the mode of transit—which latter will, however, doubtless be, in a great measure, relieved by the construction of railways now in progress through the slate districts. We are informed, that within the past two months, upwards of 60 vessels were lying, at one time, in the port of Bangor, waiting to load with slate. Such was the demand even at this season of the year; while several large American vessels had been detained many weeks—and, we believe we are right in saying, even months—ere they could get loaded with the particular description of slate required. This does not only apply to Bangor, but equally affects Port Dinorweg and Port Madoc, both of which were crowded with vessels, waiting to be supplied from the quarries of Mr. Ashton Smith; those in the neighbourhood of Carnarvon, the Celgwyn, and others, or the Festiniog district, from whence a railway traverses the line to Port Madoc. The construction of the Chester and Holyhead, and the North Wales Railway, will, however, doubtless cause a great change in the slate trade of Wales; and if the directors of those lines meet the owners of slate quarries on fair and liberal terms, we entertain no doubt, but that slates and slabs may be forwarded by rail, even to the metropolis, at a cost not exceeding that at present incurred by shipment; indeed, by a proper understanding, we doubt not but that the Chester and Holyhead line might secure at least 80,000 to 100,000 tons of mineral traffic per annum between Bangor and Chester. Again, the North Wales Railway, which forms a junction with the former line at Bangor, and takes its course by Carnarvon to Portdynllaen, will run in a direction parallel to the great roofing slate formation of Carnarvonshire; and which will, moreover, intersect the various roads and lines of railway leading from the quarries to the shipping places, or communicate with the several towns. We need hardly say, that the certainty of delivery within a given time, if sent by rail, whether into the midland districts, or to the metropolis, would, on fair and equitable terms, secure to the railways the greater portion of the traffic; while it would have the effect of reducing the freights. In thus directing attention to the slate quarries of North Wales, we have been led to be somewhat discursive, from the importance to be attached to their working, and the advantages held out to capitalists, from the prospectus of a company, having been formed with a comparatively small capital, to work the Pantdraining Quarries, which are situate about five miles from Bangor. It appears, that the main quarry has been

opened some 30 years; and the quantity of marketable slate uncovered, and at present available, is estimated at 30,000 tons. The contiguity of the quarry to the line of railway, certainly holds out a considerable advantage, from the reduction in the cost of carriage, whether to the shipping port or inland; and will, doubtless, add to the advantages contemplated. From the prospectus of the company to which we refer, we observe that they are in a position to bring the quarry into immediate productive working, having an engine erected, with railway, laid down to a considerable extent; and the several appendages, as waggons &c., which may be said to constitute the plant. We may again recur to the subject; while it will be at all times with interest we shall receive and direct our attention to communications, relative to the subject under notice; while a report from Mr. Dean, C.E., shows that a profit of 15s. per ton can be at once attained—not to advert to the progressive advance of price in the market.

CONSOLIDATED MINES.—The usual two-monthly meeting of adventurers was held at the mine, on Wednesday last, when the following accounts were examined and allowed:—By balance from last account, 1456*l.* 4s. 2d.; sales of ores (less dues), 9450*l.* 0s. 11d.—10,906*l.* 5s. 1d.—To costs and merchants' bills for November and December, 9536*l.* 2s. 7d.: leaving balance in favour of the adventurers, 1370*l.* 2s. 6d.

PAR CONSOLS AND FOWEY CONSOLS MINES.—We understand that delegates from other mines appeared amongst Par Consols miners last week, and that it was soon rumoured that they and Fowey Consols miners would stop the shipment of corn at Par. On hearing this rumour, Mr. Treffry took instant measures to prevent any collision, and the vessel left the harbour without molestation. On Saturday last, not a man was underground at Par Consols, and Mr. Treffry was sent for express to attend the setting at Fowey Consols, where he inquired if the miners had any grievance to complain of, and stated to them his regret at the lowness of their wages, considering the present price of corn; but satisfied them, that owing to the low standard of copper ores, after the adventurers had paid the expenses of the mine, they had allits proceeds. Not a man complained of his amount of wages, and one man only, who had had 20s. advanced in the nature of a loan, before his ores could be got ready to be regularly subasted on, expressed a wish that it had been 20s. Mr. Treffry pointed out to them the folly of taking the law in their own hands, either by stopping the shipment of corn or in any other way, adding, that if they misconducted themselves they would be still greater sufferers; but that, if they behaved orderly and quiet, he could not think Ministers would aggravate their present distress by complying with the petition of the Birmingham manufacturers, and others, which would ruin Fowey Consols and most other deep mines, and throw them all out of work. After Mr. Treffry had thus addressed the Fowey Consols miners, they freely took their pitches, and we understand that the whole of the Par Consols men also went to work the same morning.

BUCKFASTLEIGH.—A rich lode of copper was cut last week at Dean Prior and Buckfastleigh Mine, which is reported to be worth 80*l.* per fm.

MESSRS. CORDES AND LOCKE'S CONDENSING ROTARY STEAM-ENGINE.

We last week briefly noticed this engine—a paper having been read at the Society of Arts, accompanied by models and diagrams; but having since then availed ourselves of the opportunity of seeing the principle illustrated by an engine of 30-horse power, and thus being enabled to ascertain from personal observation the advantages which appertain to the invention, we are induced to revert to the subject, as we are at all times loath to give an opinion on a model, however beautifully it may be constructed, or accuracy observed in its movements. Having witnessed the engine at work, and deriving additional information to that previously acquired, we at once lay the result before our readers; while, ere we enter into any detail as to the construction of the engine, we may observe, that the claims put forward by the patentees, if fully borne out—and that, we must admit, to us appears to be the case—are the advantages derived from the four points to which we shall immediately refer, which, in themselves, appear to us to embrace nearly all that can be desired.

1. PRIMARY COST.—This is a matter of no slight moment, when we consider the general application of steam machinery, and the advantages possessed by the capitalist over those who must needs confine their operations to manual labour—hence any reduction in the cost of machinery is of great value. It would appear, from such information as we have collected, that a diminution of at least 50 per cent. is calculated upon, which, in itself, is a recommendation; not to observe on the several other advantages put forward—while we are ready to admit, that the first cost is not the only consideration, as equal, if not more, importance is to be attached to the working, wear and tear, with others, which will each however be noticed in their turn.

2. WEIGHT OF MACHINERY.—This has, of course, a direct influence on the cost of the arrangements, whether for land purposes, or steam navigation; but in the latter applies seriously, as affecting the tonnage of the vessel—inasmuch that the less weight or space required, the greater room is left for tonnage, or freight, which, we need hardly observe, is operated against very considerably, by the weight and bulk of the machinery at present employed on board our steamers. It appears then, from the data before us, that, while an engine constructed on the present principle would, as a rough estimate, weigh 78 tons—that an engine constructed on the principle of Messrs. Cordes and Locke, would not exceed one-half that weight.

3. SPACE.—This is a matter which may be said more particularly to apply to steam navigation, than to land purposes; little or no space is saved on the base line longitudinally—the advantage gained being in the width and height; as the principal portion of the machinery employed—that is, the rotary power or wheel maybe fixed in a horizontal, instead of a vertical position, and thus considerable space saved. In steamers, there can be no question, but this forms one of the most important features of the invention—inasmuch, that not to observe on the increased tonnage which it affords, there is this further advantage: the engine may be placed in the hold of the vessel, at a level below the water edge; and if a propeller or screw be attached, the engine would be secure from the dangers to be apprehended from the shot of an enemy in case of warfare—the space, therefore, is not one of the least important considerations.

4. FRICTION.—This, alike with other points, is one to which no slight importance is to be attached, as not only applying to a diminution of power, but cost attendant; this, we are given to understand, is, if not entirely avoided, at least of so little moment as to be hardly worth notice. Thus have we set forward the claims of the patentees; and, after satisfying ourselves on the main points, the only question which remained open was the economy of working the engine. We find that the consumption is about that which applies to the ordinary, or even the best, class of condensing engines; and hence the advantages arising from the engine, resolve themselves into the several points to which we have adverted. A word or two on the engine, and we must close our notice, which has already been extended beyond our intention. The engine is erected at the Surrey Docks, and calculated at 30-horse power, being employed as an experimental engine in working a screw propeller, which was used with the *Archimedes*, such being 5 ft. 9 in. in diameter, and in length 3 ft. 9 in.—the propeller being entirely submerged in a tank, or pool of water, 16 by 22 feet. The diameter of the steam-wheel, we may observe, is 11 ft. 7 in.; the width of the case in which it traverses being 15 in.; and the number of fanes and radial arms, 28—the breadth of each fane being 6 in., an ddepth 7 in.; while the orifice of the steam jet, which is of an oval shape—set vertically, is 3 in. by 2 in.

The construction of the engine may be briefly stated. A wheel, such as described, revolves in vacuo, not touching the case in which it is enclosed air-tight, and may be said to represent a water-wheel, having 28 arms and buckets—these being at nearly right angles, with the jet of steam as it enters the case, so as to take the steam, which, striking on the fane, carries the wheel round at the rate of 500 revolutions a minute, and discharging itself into the condenser, at the bottom of the case. We have now described the engine as we have seen it; while the question, resolving itself as it does into *l. s. d.*, we shall leave to those interested to determine how far its applicability and advantges are to be appreciated.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 23 6—Carr's Hartley 24—Charlotte 25 9—Chester Main 24 6—Davison's West Hartley 24—Holywell Main 26 6—Original Tanfield 23—Shafton Hartley 22 6—Unsworth Main 21 6—West Hartley 24—Wylam 25—Cowpen Hartley 24—Howard's West Hartley Netherton 24—Sidney's Hartley 24—Wall's End Bewicke and Co. 27—Clarke and Co. 24 3—Goenorth 27—Hebburn 26 6—Braddyll's Hetton 29—Hazwell 29—Hetton 29—Lambton 29—Russell's Hetton 29—Stewart's 29—South Kelloe 27 6—Brown's Deanery 27—Seymour Tees 27—South Durham 27—Tees 29.—Ships at market, 51; sold, 48; unsold, 3.

WEDNESDAY.—Adair's Main 23—Buddle's West Hartley 24 6—Carr's Hartley 24 6—Holywell Main 27—Morrison's Hartley 23—Ord's Redheugh 23 6—Shafton Hartley 23 6—West Hartley 24 6—Wall's End Clennell 26—Killingworth 27 6—Braddyll's Hetton 29—Hetton 29—Pemberton 27 6—Russell's Hetton 29—Adelaide Tees 28—Tees 29—Cowpen Hartley 24 6—Sidney's Hartley 24 6.—Ships at market, 20.

FRIDAY.—Carr's Hartley 23—Hastings Hartley 23—Oakenshaw Main 23—Ravensworth's West Hartley 23—Tanfield Moor 23—Wall's End Bernard 27—Bell and Brown 27 6—Bell Bowes 26 6—Elm Park 27—Goenorth 27 6—Hebburn 26 9—Wharncliffe 27 6—Belmont 26 3—Braddyll's Hetton 29—Finchale 26 6—Harwell 29—Hetton 29—Lambton 29—Adelaide Tees 29—Tees 29—Tods Hetton 25—Cowpen Hartley 23—Morgan's Stone Boat 28.—Ships at market, 37.

STATISTICS OF BRITISH AND FOREIGN MINING.

[From the *West Briton.*]

LIST OF MINES WHOSE PRODUCE HAS BEEN SOLD AT THE COPPER ORE TICKETINGS IN CORNWALL, IN ONE YEAR, ENDING DEC. 30, 1846.

Mines.	*Ore.*	*Amount.*
Wheal Alfred Consols	Tons 147	£744 6 6
Wheal Andrew and Nanglies	382	2087 17 0
Wheal Bucketts	119	969 0 6
Wheal Buller	343	1091 17 0
Wheal Brewer	432	1348 1 0
Wheal Busy	231	543 4 6
Botallack	513	3338 2 0
Barrier	430	2046 7 0
Bedford United Mines	1159	6960 18 6
Wheal Clifford	345	1760 14 0
Wheal Comfort	267	1058 9 6
Cook's Kitchen	134	468 12 6
Camborne Vean and Stray Park	3161	15600 7 0
Copperhouse Slag	158	306 18 0
Carn Perran	197	645 3 6
Creeg Brawa	817	4297 16 0
Consolidated Mines	9037	54395 9 6
Carn Brea	7268	41477 6 0
Condurrow	609	3305 9 6
Dolcoath	2156	9546 9 0
East Downs	139	721 19 6
Wheal Ellen	743	4466 12 6
East Wheal Crofty	4127	22698 13 0
East Pool	633	3009 7 6
Fowey Consols	7189	34760 16 0
Wheal Friendship (Devon)	1135	8904 17 0
Godolphin	635	3330 0 0
Wheal Goriand	144	676 19 6
Grambler and St. Aubyn	1292	6638 1 0
Hayle Slag and Harvey's Dross	226	556 16 0
Hanson Mines	162	747 13 6
Holmbush	1279	8118 0 0
Hallenbeagle	1291	4000 10 0
Wheal Harriet	987	4200 5 6
Wheal Jewel	946	4035 6 0
Wheal Kayle	337	1283 5 6
Lanivet Consols	1150	6335 1 6
Wheal Lydia and South Towan	1408	5839 5 0
Levant	1290	8199 18 6
Wheal Maiden	361	1456 10 0
Marke Valley	553	2583 10 6
Wheal Maria	13684	85469 10 6
North Roskear	5059	29907 12 0
North Downs	239	1284 7 0
North Wheal Basset	226	1131 2 0
North Pool	291	783 14 0
Penpoll Company's Regulus and Slag	105	776 10 0
Poldice	1985	8563 16 0
Perran St. George	1782	8522 5 6
Providence Mines	222	683 11 0
Penstruthal	165	926 16 6
Par Consols	6065	35144 4 0
Wheal Prosper	3899	17599 10 0
Wheal Providence and Wheal Tremayne	1105	6296 2 6
Redruth Consols	71	511 3 0
Wheal Rodney	407	1548 11 0
South Roskear, &c.	1376	6952 6 6
South Caradon	4189	24729 16 0
South Wheal Francis	903	5368 4 0
St. Austell Consols	75	316 15 6
Wheal Seton	4590	30160 3 0
Wheal Sisters	910	4375 6 6
South Wheal Basset	2914	14920 10 6
St. Agnes Consols	527	1491 9 6
Tincroft	5650	24897 3 6
Wheal Trenwith	79	485 16 0
Tresavean	5855	32907 5 6
Treviskey	885	6623 3 6
Treleigh Consols	2151	12190 13 0
Trethellan	1817	5118 1 6
Wheal Trewavas	397	2330 14 6
Tretoll	569	2344 8 6
Ting-Tang Consols	414	1643 14 0
Trenow Consols	1786	11845 4 0
United Mines	11966	56471 2 6
United Hills	3431	17180 11 0
Wheal Virgin	946	4956 15 6
Wheal Vyvyan	309	1108 1 6
West Trethellan	127	431 5 0
West Fowey Consols	136	681 7 0
West Wheal Treasury	483	2444 9 0
West Caradon	4736	33801 3 6
West Wheal Jewel	1520	8008 13 6
Sundry small mines	1021	4181 9 0
Total	150,431	£796,102 6 6

We regret to state, that this return presents a falling off in this staple produce of the county, in the past year, of not less than 13,126 tons of copper ore, and a decrease in the amount of the sales of 123,751*l.* 18s. 6d.

THE FOLLOWING LIST EXHIBITS THE INCREASE OR DECREASE RESPECTIVELY IN THE AMOUNT OF THE SALES FOR THE YEAR.

Mines.	*Increase.*	*Decrease.*
Wheal Andrew and Nanglies	£1094 5 0	
Wheal Buller	—	£4119 15 6
Wheal Brewer	—	4417 15 0
Wheal Busy	—	445 7 6
Botallack	—	6318 8 6
Barrier	—	4008 17 0
Bedford United Mines	—	1783 3 0
Wheal Clifford	—	463 4 6
Wheal Comfort	744 11 6	—
Cook's Kitchen	—	1053 16 0
Camborne Vean and Stray Park	1735 4 6	—
Carn Perran	127 2 6	—
Creeg Brawa	1366 8 0	—
Consolidated Mines	3239 9 6	—
Carn Brea	2014 12 0	—
Condurrow	1609 16 0	—
Dolcoath	—	7450 7 6
East Downs	—	438 18 6
Wheal Ellen	93 12 0	—
East Wheal Crofty	—	13604 1 6
East Pool	—	2420 16 6
Fowey Consols	—	14472 4 6
Godolphin	—	4385 5 0
Wheal Goriand	—	976 9 0
Grambler and St. Aubyn	—	1573 13 0
Holmbush	—	6839 5 6
Hallenbeagle	—	6478 6 6
Wheal Harriet	1256 15 0	—
Wheal Jewel	—	3897 11 0
Lanivet Consols	153 7 0	—
Wheal Lydia and South Towan	—	3813 9 6
Levant	1044 19 0	—
Wheal Maiden	—	876 13 0
Marke Valley	2061 13 0	—
Wheal Maria	—	5502 4 6
North Roskear	—	11747 18 6
North Downs	—	446 13 6
Poldice	—	2325 9 6
Perran St. George	1190 12 6	—
Providence Mines	—	1642 2 6
Penstruthal	—	2417 19 6
Par Consols	4962 18 6	—
Wheal Prosper	—	11634 9 6
Wheal Providence and Tremayne	—	8483 14 6
Wheal Rodney	1083 5 0	—
South Roskear, &c.	—	1785 14 0
South Caradon	—	2526 13 6
South Wheal Francis	8388 12 0	—
Wheal Seton	18807 17 0	—
Wheal Sisters	1760 0 6	—
South Wheal Basset	—	5040 16 6
Tincroft	—	5730 7 0
Wheal Trenwith	—	1049 6 6
Tresavean	—	4186 19 6
Treviskey	186 19 0	—
Treleigh Consols	2920 18 0	—
Trethellan	—	4860 16 0
Wheal Trewavas	—	3121 15 6
Tretoll	—	1188 7 0
Ting-Tang Consols	1241 4 0	—
Trenow Consols	—	7720 10 0
United Mines	—	18426 19 0
United Hills	—	394 9 6
Wheal Virgin	1992 10 0	—
Wheal Vyvyan	—	354 17 0
West Trethellan	—	636 9 0
West Fowey Consols	—	138 1 0
West Wheal Treasury	1170 2 0	—
West Caradon	—	470 18 6
West Wheal Jewel	—	3136 8 0

THE PRODUCE OF MINES SOLD AT THE TICKETINGS AT SWANSEA, IN ONE YEAR, ENDING DECEMBER 31, 1846.

Mines.	*Ore.*	*Amount.*
Cobre	Tons 14755	£166429 8 6
Chili	6701	159634 0 6
Cuba	6290	68446 19 0
Santiago	4638	60014 10 0
Berchaven	3756	41866 13 6
Knockmahon	3721	37429 16 0

PRODUCE OF MINES, &c.—*Continued.*

Mines.	*Ore.*	*Amount.*
Copiapo	Tons 1020	£20028 1 6
Barra Barra (South Australia)	1038	18123 4 0
Kapunda ditto	831	16728 1 6
San Jose in Cobre	1147	11746 3 0
Crosebane	2235	10160 8 0
Ballymurtagh	2719	8346 14 0
Pennsylvania	675	5582 13 6
Montesuto (South Australia)	264	4370 12 6
Australia	256	4354 1 6
Victoria	686	2756 12 0
Llandidno	430	3921 8 0
Tigrony	644	2687 13 6
Kaw-ar (New Zealand)	249	3635 7 0
Holyford	77	1556 8 6
Havana	169	1333 12 0
Kanmantoo	78	1209 14 0
Lackanore	124	941 8 0
North Cushcen	48	930 0 0
Ardtully	100	800 10 0
Sydney	67	645 6 0
Clogs	176	472 6 6
Abbey Regulus	59	497 14 0
Sundry small mines	1023	4167 0 0
Total	Tons 86496	£569,267 1 0

This account also exhibits a decrease in the quantity of ore sold at Swansea last year, as compared with 1845, of 8796 tons of ore, and in the amount of money of 109,594*l.* 18s. 6d., which, added to the deficiency in Cornwall, makes a total of 20,924 tons of ore, and in money, 233,346*l.* 16s. The deficiency of *copper* in Cornwall, and at Swansea, is upwards of 2060 tons.

THE FOLLOWING TABLE WILL SHOW THE INCREASE OR DECREASE RESPECTIVELY IN THE AMOUNT FROM EACH MINE IN THE YEAR.

Mines.	*Increase.*	*Decrease.*
Cobre	—	£20314 10 8
Chili	£41307 9 0	—
Cuba	—	8625 9 0
Santiago	—	46186 9 6
Berchaven	—	4169 2 6
Knockmahon	—	8591 7 0
Copiapo	7583 5 6	—
San Jose in Cobre	—	25040 14 9
Crosebane	3064 3 6	—
Ballymurtagh	—	1915 5 6
Montesuto	917 6 6	—
Victoria	—	2961 4 6
Llandidno	—	1003 3 0
Tigrony	—	417 5 6
Cushcen	—	1456 2 6
Ardtully	—	284 14 0
Clogs	—	1490 3 0

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 7 per Cent., 204 5
3 per Cent. Reduced Ann., 91¾ ¼
3 per Cent. Consols Ann., 91¾ 90¾
3 per Cent. Annuities, —
3½ per Cent. Ann., 93¼ 2¼
Long Annuities, 9¾ ¾
India Stock, 10¼ per Cent., 250¼ 2
2 per Cent. Consols for Acc., 91¼ ¾
Exchequer Bills, 1000*l.*, 8 7 6 pm.

Belgian Bonds, 4½ per Cent., 94½
Dutch, 2½ per Cent., 57
Brazilian, 5 per Cents., 85
Chilian, 6 per Cents., 94
Mexican, 5 per Cents., 21¼
Spanish, 5 per Cents., 23¾ ¼
Ditto Deferred, 16¼
Portuguese, 4 per Cents., 31¼ 2½
Russian, 5 per Cents., 110¾ ¼

The money market during the earlier part of the week has been in a very agitated state, and Consols declined more than 2 per cent.; but the peaceable tone of her Majesty's Speech, and the debates in both Houses of Parliament, have, in some measure, reassured the jobbers in the funds; and, although Consols have been done at 92, they are nominally 90¾ to 91 money, and 91 to ¾ the account. This unsettled state of the monetary market may be greatly attributable to the notice issued on Thursday by the Bank directors, that the minimum rate of interest on bills discounted at the Bank of England, not having more than 95 days to run, is increased to 4 per cent., and it is generally the opinion of the wiseacres of Capel-court, that the directors will ultimately follow the example of the Bank of France, and a rise their rate of interest to 5 per cent.

MINES.—From the rather improved state of the mining share market during the latter part of last week, we had anticipated that the commencement of the present week would have opened with considerable business, but we find that our hopes have not been realised, for comparatively little business has been transacted during the week. In giving a list of mines in which shares have changed hands, much may be considered to have been done; yet when we contemplate the immense capital employed in the mining interest of the United Kingdom, and calculate the number of mines in operation, with the favourable results which have generally attended them, it no longer becomes a matter of surprise. If *surprise* be at all engendered, it certainly should be that a greater amount of capital is not conveyed into this channel of profitable (though speculative) investment, which at the present period can be readily secured in dividend paying mines, from 20 to 25 per cent. per annum. The advice of several improvements have reached us this week. Tresavean, which for many years headed the ticketing sales of the Cornish mines, had considerably falling off during the past four or five years; but within the last week, a most important discovery has been made in the bottom level, and consequently buyers are to be found—should the course of ore continue, no doubt many shares will change hands; some business have already been done.

At Wheal Anderton, near Tavistock, a great discovery of a productive tin lode, between the 50 and 60 fm. levels, have produced tributers; but the limit here between buyer and seller has been very wide: last week we quoted them at 18*l.*, but have since learned that shares have changed hands in the county at 50*l.* per share; still there were sellers in the City yesterday at 55*l.*, and no buyers. Lamberoose have been quoted by us at 9*l.* and 9*l.*; but we are not aware of any transactions at the latter price—and these shares have been freely offered at 8½*l.*, and no buyers found. Treviskey and Barrier has also been in request and done—a dividend of 5*l.*, for the past two months, having been declared this week. South Wheal Francis, which were sought for about a month since, has not met with a ready sale, even at less price, although we are advised that 25,000*l.* worth of copper and tin ore is discovered. Trewallack is spoken favourably of; but the call of 4*l.* per share has rather damped the ardour of buyers—still business has been done in them. Perran Wheal Virgin has considerably risen in the county. Transactions in the following mines have taken place—viz., Tresavean, Trethellan, Treviskey and Barrier, Holmbush, Cleveland, Trehane, South Tamar, Great Wheal Michell, Wheal Benny, Trewallack, Rialton, South Wheal Francis, South Basset, Perran Wheal Virgin, West Wheal Tolgus, Ting Tang, &c.

In the foreign share market there has been an inquiry for Altens, Copiapo, and Bolanos; the former has been found scarce at 4*l.*

RAILWAYS.—The share market has, in a great degree, participated in the same stagnation as the money market; and, up to Thursday, prices have been generally on the decline. they have, however, rallied a little, but the dealers are very cautious in not entering into large transactions, as they wait to see what effect the rise of interest by the Bank will have on the country share markets; for, although money is not particularly scarce, many of the speculators will, no doubt, be obliged to submit to this increase of discount. In old accredited shares a fair business has been done, considering the depression, but in scrips the investments have been limited. At Liverpool, Birmingham, Leeds, and Manchester, the transactions have been on a confined scale, but with a tendency of improvement; at Bristol the business has been more active. French and Belgian shares have been on the decline. The early meeting of Parliament, and the number of railway bills to be got through this session, promise plenty of business for the Members and the committees, but, particularly, the gentlemen of the legal profession, who, as usual, will reap a golden harvest from iron, and the great increase of its use in the conveyance of the public on the lines, branches, and extensions, about to be applied for. We are glad to see they have commenced in a business-like manner; and as the Standing Orders have been generally complied with, and less opposition manifested than last and previous sessions, the different companies will not be put to that enormous expense, uncertainty, and delay, in carrying their bills through Parliament, which was not only prejudicial to the public in general, but highly censurable to those confided with the interests of enterprising speculators. Excepting on emergencies; the sub-committees on Standing Orders seldom sit on Saturdays; not so, however, with the new examiners, who propose, without departure from the rule, to include Saturday in their sittings, and so work in advance of their sub-committee predecessors. The experimental working of the new system promises to be tolerably effective, if we may judge from the manner it has commenced, by the expediting the bills already examined since the committees have met.

MEETINGS—Have been very limited.—*South Devon:* a rather stormy one took place on Saturday. Various causes of complaint were alleged against the directors—the principal of which was the allocation of 15,000*l.* towards the erection of the Great Western Docks, which had already occasioned the retirement of two of the directors. A resolution was carried for the appointment of a deputation, to wait on the directors, and represent to them that it is inexpedient to make such an outlay.—*Taw Vale Dock:* at a special general meeting, held at the London Tavern, on Monday, for the purpose of confirming or rejecting an agreement, entered into between the directors of the Taw Vale and the South Western, with the object of leasing the line to the latter, which was carried in the affirmative.—*Madras, Nellore, and Arcot:* an ordinary meeting was held on Tuesday. The company is fully registered, but had not

yet obtained the concurrence of the East India Company, though they have every hope of doing so. A satisfactory explanation was given respecting the circulation of a number of shares.—*Molton and Duffield Junction*: the half-yearly meeting was held on Tuesday. The report showed a balance in hand of 695*l.* 2s. 11d. The directors did not expect that the works would be completed in less than 18 months; and a further call of 2*l.* 10s. per share, would be made during the ensuing six months for that purpose.—*Rugby, Derby, and Manchester*: a meeting of the shareholders was held yesterday at the London Tavern, for the purpose of adopting the best means of winding up the affairs of the company. The report which was submitted, embraced all the details of the proceedings of the managing committee since last December twelvemonths; and it was adopted unanimously. Some discussion followed, as to the propriety of paying or resisting the demand of a Mr. Brewer—all the other claims on the company having been settled satisfactorily—when a resolution was carried to resist, as he had not taken up the shares that had been allotted to him, nor would he allow others to take them.

MISCELLANEOUS.—The committee of the London, Salisbury, and Yeovil, have concluded an arrangement with the London and South Western, which will enable them to return 1*l.* per share. They have also a guarantee from that company for the payment of a further sum of 1*l.* 10s., in the event of the bill for making a railway in continuation of the line not receiving the Royal assent.—Mr. Peto expects to be able to complete the Southampton and Dorchester line by the 1st of May next.—The works on the Fleetwood, Preston, and West Riding Junction, from the Maudlin station, will be completed with all possible despatch.

RAILWAYS AND CANALS LIABLE TO POOR'S RATES.—This has been established by the second division of the Court of Session, in the case of St. Cuthbert's Parish *v.* the Union Canal Company. The decision runs:—1st. That the company were liable for the assessment both as heritors and occupants, the same as other parties. 2d. That the house property occupied by the company is liable to be assessed separately from the canal. 3. As to the amount of deduction to be made on account of capital embarked in the carrying trade, the court remitted to a person of skill, to inquire into, and report on that point.

HULL, THURSDAY.—In consequence of the alteration in the rate of discounts, and other causes, shares have been flat throughout the week. The depression, however, compared with Consols, has not been so great as many people expected; and shows that there have been very few forced sales, and not many weak holders. The bears on the London Stock Exchange have, no doubt, been very busy these last two or three days, and have, of course, an interest in wishing for a lower range of prices. The *Times* is, as usual, howling in concert with them—but, if the public do not take alarm, there is nothing to fear. We are not prepared to hazard the opinion, that this is the very best time to purchase; but we are certain, that those who now buy into the better class of lines, must, some day or other—and, perhaps, at an early one—gather good profits.

LEEDS, FRIDAY.—The depression in the share market, alluded to last week, has since continued to increase, and prices are, without exception, considerably lower than we have had them for some months past. The high price of provisions—the state of the exchanges, and the general scarcity of money abroad, should lead to great caution on the part of operators; while the generally sound state of business, and the almost entire absence of speculation in any of the great staple trades of the country—aided by the wise commercial measures proposed by Government—may be expected to prevent any long-continued pressure on the market, and should restrain holders of good stocks from pressing sales indiscriminately, under the influence of a temporary panic.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Jan. 16, was 18,798; amount of money, £78 6s. 6d.

RAILWAY SHARE LIST.

RAILWAYS.	*Paid*	*Last week.*	*Last night.*
Aberdeen	£25	25	23½
Birmingham and Gloucester—100*l* shares	100	129	129
Birmingham and Oxford Junction—20*l* shares	5	14½	13½
Bristol and Exeter—100*l* shares	75	78	—
Caledonian—50*l* per share	30	27½	26½
Chester and Holyhead—50*l* shares	27½	25	24
Eastern Counties—25*l* shares	20	22½	22½
Edinburgh and Glasgow—50*l* shares	50	78	72
Great Southern and Western (Ireland)—50*l.* shares	27½	28½	27
Great North of England—100*l* shares	100	228	236
Great Western—100*l* shares	85	131½	125
Lancaster and Carlisle—50*l* shares	50	65	—
Leeds and Bradford	35	82½	81½
Liverpool, Manchester, and Newcastle Junction	2½	7½	2½
London and North Western	stock.	195	192
London and Blackwall	Av. 16*l* 13*s* 4*d*	8½	7½
London and Brighton—50*l* shares	50	56½	55½
London and Greenwich	Av. 12*l* 18*s* 4*d*	9½	9½
London and South Western	Av. 41*l* 6*s* 10*d*	64	60½
London and York—50*l* shares	2½	3½	3½
Manchester and Leeds—100*l* shares	82	111	107
Manchester and Southampton	2	1½	1½
Midland	Stock	126	123
Newcastle and Berwick—25*l* shares	20	34½	34
Norfolk	Stock 100*l*	129	129
North British—25*l* shares	25	34	34
Northern and Eastern—50*l* shares	50	63	63½
North Staffordshire—20*l* shares	5	8½	7½
Oxford, Worcester, and Wolverhampton	17½	12½	11½
Scottish Central—25*l* shares	15	22½	22½
Scottish Midland—25*l* shares	17½	13	19
Shrewsbury and Birmingham	3	4½	4
South Devon—50*l* shares	40	35	35
South Eastern and Dover	Av. 33*l* 2*s* 4*d*	38½	37
South Wales—50*l* shares	10	7½	7½
Vale of Neath	2	1½	1½
Waterford and Kilkenny	11	5½	—
Welsh Midland	2½	2	—
York and Newcastle—25*l* shares	25	37	36½
York and North Midland—50*l* shares	50	93	92
FOREIGN RAILWAYS.			
Boulogne and Amiens—20*l* shares	18	14½	14½
Dutch Rhenish—20*l* shares	7	4½	4½
East Indian	1	1	1
Great Northern of France (constituted)	8	12	11½
Luxembourg	6	2½	2½
Namur and Liege—20*l* shares	8	3½	3½
Orleans and Vierzon—20*l* shares	10	13	—
Orleans and Bordeaux—20*l* shares	6	7½	6½
Paris and Lyons Constituted	8	7½	7
Paris and Orleans—20*l* shares	20	48	—
Paris and Rouen—20*l* shares	20	35	—
Rouen and Havre—20*l* shares	20	26½	25
Sambre and Meuse—20*l* shares	10	4½	4½
West Flanders	6	2½	2½

RAILWAY TRAFFIC RETURNS.

From these returns, it will be seen, that the amount of traffic for the last week, on nearly 2730 miles of railway, was 128,695*l.*, thus accounted for:—65,838*l.* for the conveyance of passengers only, 35,157*l.* for the carriage of goods, and a remainder of 27,700*l.* for passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of 15,454*l.*

Name of Railway.	Lgth. Rway.	Present actual cost.	Last Div.	Traffic Returns. 1847	1846
Arbroath and Forfar	15	£142,900	3 *p.c.*	£212 0 0	£171
Chester and Birkenhead	15	658,293	2½	481 2 2	542
Dublin and Drogheda	35	699,975	3½	722 0 0	587
Dublin and Kingstown	6	349,736	9	684 14 6	607
Dundee and Arbroath	17	156,324	6	286 2 1	228
East Lancashire	28	380,061	—	654 10 2	—
Eastern Counties	161	4,746,113	6½	8910 4 1	6282
Eastern Union	—	—	—	457 0 0	—
Edinburgh and Glasgow	46	2,112,136	6	3065 9 7	2523
Glasgow, Paisley, and Ayr	53	1,301,381	7	2006 17 3	1871
Glasgow, Paisley, & Greenock	23	829,427	2	906 4 9	726
Great Southern and Western	56½	845,943	—	1046 13 11	—
Great Western	241	8,585,605	8	15730 14 9	15458
Ipswich and Bury	26½	—	—	407 0 0	—
London and North Western	440½	16,327,526	10	35410 15 3	34653
London and Blackwall	4	1,081,273	1½	694 15 3	727
London, Brighton, & South Coast	113	4,670,721	5	5533 8 0	4154
London and South-Western	106	3,648,547	9	5088 4 1	5047
Manchester & Leeds	117	4,636,556	7	7706 16 10	6910
Manchester, Sheffield, & Lincolnsh.	10	1,633,221	5	1731 0 0	1567
Midland Company	331	8,831,195	7	15891 17 9	13567
Newcastle and Berwick	9	527,910	5	472 14 5	—
Newcastle and Carlisle	65	1,137,385	5	2039 10 5	1661
Norfolk	70½	985,080	6	1270 12 7	1065
North British	72	1,461,198	—	1339 17 5	—
Preston and Wyre	29	432,014	2½	526 0 0	416
Shrewsbury and Chester	15	354,945	—	296 7 0	—
South Devon	15	778,976	—	421 14 6	—
South-Eastern	140	6,613,535	3½	6465 18 3	4823
Taff Vale	30	690,229	6	1296 13 4	1136
Ulster	25	356,353	5½	729 12 5	639
York and Newcastle	147½	2,334,559	9	7352 4 2	4059
York and North Midland	165	2,092,979	10	2695 12 2	4306
FOREIGN RAILWAYS.					
Dutch Rhenish	57	—	—	5230 0 0*	—
Northern of France	260	—	4	8477 0 0	—
Orleans and Bordeaux	72	599,040	4	2250 0 0	—
Paris and Orleans	82	2,062,916	9½	6144 0 0	—
Paris and Rouen	85	2,062,916	8	5502 0 0	4454
Paris and Versailles (left bank)	—	—	—	1499 0 0*	—
Ditto (right bank)	—	—	—	2608 0 0*	—

* Last monthly return.

PRICES OF MINING SHARES.

BRITISH MINES. Shares.	Company.	Paid.	Price.
1024	Alfred Consols	4½	55
225	Andrew and Nangiles	99½	20
1000	Barristown	4½	25
4000	Bedford	2½	3½
128	Besore Lead Mine	14	30
320	Birch Tor Tin Mine	21½	14½
9000	Blaenavon	50	40
100	Botallack	175	200
120	Brewer	—	5
10000	British Iron, New, regis.	10	19
—	Ditto ditto, scrip	10	19
128	Budnick Consols	52½	45
100	Bwlch Cwmerfin	20	—
1000	Callington	19	23½–2½
256	Caradon Consols	45	15
256	Caradon Copper Mine	9½	1
256	Caradon Mines	15	15
256	Caradon United	24	10
256	Caradon Wh. Hooper	12	7
1000	Carn Brea	15	90
114	Charlestown	—	150
166	Cleveland	9	4½–6
1900	Combmartin	5½	4½
1000	Comblawn	½	2
128	Comfort	—	40
5000	Con. Tretoil Mining Ass.	5	½
128	Condurrow	36	52½
2560	Cook's Kitchen	—	4
1000	Copper Bottom	1	5
1024	Cosheen	4½	30
240	Craddock Moor	15½	20
128	Creeg Braws	120	200
500	Cubert Mine	12	27½
7100	Derwent	8½	5
1024	Devon & Courtney Con.	5	5
1000	Dhurode	2	5
186	Dolcoath	—	30
10000	Durham County Coal	45	9
256	East Alvenney	3	10
112	East Caradon	40	40
2048	East Crowndale	3½	1½
512	East Combe Silver-Lead	6½	20
128	East Pool	5	14
100	East Relistian	15	17
9000	East Tamar Consols	1½	2½
—	East Wheal Albert	1	3
94	East Wheal Crofty	280	310
256	East Wheal Fortune	1½	3
256	East Wheal Kitty	½	1
128	East Wheal Rose	50	1200
123	East Wheal Seton	9	22
512	Fowey Consols	40	40
20000	Galvanised Iron Co.	10	9½
10000	Gen. Mining Co. for Irel.	½	½
1000	Godolphin	25	35
256	Gonamena	21	70
128	Gover	23	200
244½	Grambler & St. Aubyn	—	40
100	Great Consols	1000	400
256	Great Callestock Moors	16½	20
2560	Great Michell Consols	2	3½
256	Great Reangga Moor	2	4
512	Gt. Wh. Rough Torr Con.	2	25
1800	Great South Tolgus	2	2½–3
100	Grogwinion	5	—
1000	Gunnis Lake	1½	3
256	Gwinear Consols	5	5½
1000	Hanson	14	3
1000	Harrowbarrow Old Mine	5½	2½
1000	Harrowbarrow Consols	2	½
800	Hawkmoor	3	2
6000	Heignston Down Con.	½	2½
256	Herodsfoot	14	5
10000	Hibernian	12½	1
—	Hobb's Hill	4	3
1000	Holmbush	16	17
256	Ivy Tor	1½	2½
827	Kirkcudbrightshire	4½	5½
2048	Lamherooe Wh. Maria	9	6–6½–7
2048	Lanivet Consols	4	2
200	Larkholes	1	3
160	Levant	—	90
1000	Lewis	15	11
1280	Llancynfelin	6	10
256	Lostwithiel Consols	6	7
128	Ludcott	3	3
4000	Marke Valley	10	3½
5000	Mendip Hills	1½	1
20000	Mining Co. of Ireland	7	8½
152	Nanterrow Consols	24½	7
128	North Fowey Consols	20	22
100	North Pool	37	90
70	North Roskear	10½	300
256	North Treburget	4	5
100	North United	41	20
256	North Wh. Leisure	1½	4
128	North Wh. Providence	2½	7
256	North Wheal Rose	26½	13
18000	Northern Coal Co.	23	2
600	Old Delabole Slate Co.	25	45
128	Par Consols	—	900
256	Pembroke	½	2½
256	Penhallow Moor	15	4
6000	Pennant	1	1½
100	Penrhiw	30	65
128	Pen-y-Cefn Mine	50	55
1280	Perran St. George Un.	13	20
128	Perran Wh. Virgin	9½	100
512	Plymouth Wh. Yeoland	2½	5½–6
2048	Prince Edward	1½	1½
256	Redruth Consols	3	14
10000	Rhymney Iron	50	20
256	Rose Consols	10	12½
1000	Rosewall Hill	1	3
—	Shotts Iron Company	50	70
2500	Silver Valley	4	3
256	Sourton Consols	3½	3
128	South Caradon	10	400
2000	South Dolcoath	2	—
256	Sth. Friendsh. Wh. Ann	14	14
200	South Harvannah	23	26
9000	South Tamar	½	½
194	South Tolgus	2½	12

BRITISH MINES—*continued.* Shares.	Company.	Paid.	Price.
800	South Towan	10	1½
256	South Trelawney	15½	14
128	South Yeoland	16½	20
128	South Wheal Basset	110	130
124	South Wh. Francis	67	170–80
256	South Wh. Hope	—	5
1000	South Wh. Maria	2½	2
256	South Wheal Rose	11½	1
10000	Southern & Western, Irish	2	4–5
256	St. Austell Consols	7	16
94	St. Ives Consols	—	500
1000	Stray Park	43	21
9600	Tamar Consols	3	5½
1024	Tavy Consols	1½	2
6080	Tincroft	7	9½
256	Ting Tang	89	20
128	Tokenbury	140	15
256	Trehane	7	22
5000	Treleigh Consols	5	3½
256	Trenow Consols	30	30
96	Tresavean	10	200
120	Trethellan	9	30–5
120	Treviskey and Barrier	67	135
256	Trewalluck	20	22–25
128	Trewellard	12	26½
600	United Hills	5	1
4100	United Mines	300	500
10240	Victoria Tin	1	1
256	Wellington Mines	15	25
128	West Basset	45	10
256	West Caradon	20	160
128	West Cargoll	2	12
512	West Fowey Consols	40	35
—	West Kekewich Consols	—	3
256	West Providence	9½	20
200	West Seton	40	42½
120	West Trethellan	5	25
256	West United Hills	2½	8–10
256	West Wh. Friendship	7½	4
3845	West Wheal Jewel	11	2½
2560	West Wh. Maria	1½	3½
256	West Wheal Shepherd	—	6½
256	West Wheal Tolgus	21½	8
256	West Wheal Treasury	14½	10
240	Westerlake	3	3
5200	Wicklow Copper	5	15½
184	Wheal Adams	41	30
1000	Wheal Agar	—	
250	Wheal Albert	10	8
128	Wheal Acland	13	2
256	Wheal Allen	1½	4
237	Wheal Anderton	14½	35–50
128	Wheal Ann	—	50½
128	Wheal Arvose	2	4
2560	Wheal Barbara	1½	1½
256	Wheal Benny	5½	8
256	Wheal Blencowe	8	11
256	Wheal Byon Consols	½	½
136	Wheal Clifford	190	190
1024	Wheal Concord	5½	5
6000	Wheal Curtis	1½	1½
512	Wheal Elizabeth	2½	3
256	Wheal Fortescue	5½	11
2048	Wheal Frederick	2	2
384	Wheal Franco	25	24
256	Wheal Gill	19½	18
128	Wheal Harriet	45	48
2048	Wheal Holwell	1½	1½
256	Wheal Jane	11	35–37½
256	Wheal Kekewich	4	4
256	Wheal Louisa	5½	10
256	Wheal Maria (Hayle)	19	30
1024	Wheal Maria	1	500
4000	Wheal Martha Consols	5	
256	Wheal Mary Ann	5	70
1024	Wheal Mary (Calstock)	5	1–2
256	Wheal Mary Consols	34	25
256	Wheal Mary (Lanivet)	2½	4
256	Wheal Mary Pentuan	1½	5
256	Wheal Maud	1½	4
128	Wheal Metha	21	110
128	Wheal Pollard	12½	12
210	Wheal Prospect	4	11½
128	Wheal Reeth	1	60
128	Wheal Rose	60	80
99	Wheal Seton	150	800
1024	Wheal Spearne	1½	8
256	Wheal Sisters	27½	20
260	Wheal Trelawney	7½	120
256	Wheal Tremayne	35	60
128	Wheal Trew	20	21
256	Wheal Trewennan	—	10
128	Wheal Venland	12½	10
127	Wheal Virgin	30	40
256	Wheal Vlow (Perranz.)	½	½
1024	Wheal Walter	4	3
256	Wheal Williams	2	18
FOREIGN MINES.			
5000	Alten Mining Company	14½	4
15000	Asturian Mining Co.	6	4½
20000	Australian	2	4
10000	Anglo-Mexican Co.	100	1
3374	Ditto Subscription	25	2½
2000	Bolanos	150	6½–8
12000	Ditto Scrip	15	—
10000	Brazilian Imperial	20	2½
12000	Cobre Copper Co.	40	18½
8500	Colombian Co. regis.	55	} 4½
5000	Ditto Scrip	—	
10000	Copiapo Mining Co.	14	2½
20000	General Mining Ass'n.	20	13½
5051	Mexican Company	59	—
12000	Mocaubas & Cocaes	25	6½
29320	{ Rl. del Monte, regis. / Ditto unregistered }	29½	av. 3½
	Ditto Red Debentures	—	21
	Ditto Black ditto	—	17
	Ditto Loan Notes	150	125
7000	Royal Santiago	10	7½
2000	Pachuca Mines	3	3½
11000	St. John del Rey	15	9½
43174	United Mexican	28½	2½

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

LATEST CURRENT PRICES OF METALS.

LONDON, JANUARY 22, 1847.

	£	s.	£	s.	d.
IRON—Bar *a*, Wales...*ton*	0	0—	9	0	0
„ ..London	0	0—	10	0	0
Nail rods „	0	0—	10	15	0
Hoop (Staf.) „	0	0—	12	0	0
Sheet „ „	0	0—	13	0	0
Bars „ „	11	0—	11	10	0
Welsh cold-blast foundry pig	4	5—	5	5	0
Scotch pig *b*, Clyde	3	12 6	3	14	0
Rails, average	9	15—	10	0	0
Russian, CCND *c*	0	0—	—		
„ PSI	0	0—	—		
„ Gourieff	0	0—	—		
„ Archangel	0	0—	13	10	0
Swedish *d*, on the spot	0	0—	11	15	0
„ Steel, fagt.	0	0—	16	5	0
„ „ kegse	15	0—	15	10	0
COPPER—Tile *f*	0	0—	87	10	0
Tough cake	0	0—	88	10	0
Best selected	0	0—	91	10	0

	£	s.	£	s.	d.
COPPER—Ordin. sheets, *lb.*	0	0—	0	0	10
„ bottoms	0	0—	0	0	11
YELLOW METAL SHEATHING	0	0—	0	0	8½
TIN—Com. blocks *g*...*cwt.*	0	0—	4	18	0
„ bars	0	0—	4	19	6
Refined	0	0—	5	1	0
Straits *h*	0	0—	4	18	0
Banca	0	0—	5	1	6
TIN-PLATES—Ch., IC *i*, *box*	1	10—	1	12	0
„ IX	1	16—	1	18	0
Coke, IC	1	7—	1	8	0
„ IX	1	13—	1	14	0
LEAD—Sheet *k*...*ton*	19	5—	19	10	0
Pig, refined	0	0—	21	0	0
„ common	0	0—	18	15	0
„ Spanish, in bd.	17	10—	17	0	0
SPELTER—(Cake) *l*	21	10—	22	0	0
„ „ for arrival	0	0—	20	10	0
ZINC—(Sheet) *m* export.*	0	0—	28	0	6
QUICKSILVER *n*...*lb.*	0	0—	0	4	6

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto. In kegs ½ and ½-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash. in bond. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash. *m* Discount 1½ per cent. *n* Discount 1½ per cent. * For home use it is 32*l.* per ton.

IRON.—Welsh and Staffordshire continue firm, at last week's quotations. Scotch pig has given way, and sales have been reported as low as 71s. 6d. for mixed Nos.; but No. 1, of the leading brands, cannot be got under 73s. 6d. to 74s. In Swedish iron and steel nothing doing, but prices are firm.

COPPER remains as last week—our quotations, however, must be considered nominal, as the smelters decline export, and other large orders, at (what must be called) the current rates.—TIN.—English continues in good demand—foreign is firm at quotations, but no sales reported this week.—TIN-PLATES not much in request, but prices are firm.

SPELTER.—Price opened this week at 20*l.* 10s. on the spot; owing to a good demand, it has since advanced to 21*l.* 10s., at which sales were made yesterday—for arrival, 20*l.* 10s. has been paid. At these rates about 400 tons have been sold this week.

GLASGOW PIG-IRON TRADE.

JAN. 20.—Prices are still on the decline: there are a few anxious sellers, and buyers are scarce. The price may be quoted to-day at 72s. to 72s. 6d. for mixed Nos., at which there have been transactions.

—— The financial state of this country, and also that of the continent, has had a serious effect on the pig-iron market, and holders have been realising profits as quickly as possible, but have had to submit to a series of lower prices. The depressing accounts received from London to-day still further damped our market, and sales of mixed Nos. have been made at 72s., and ultimately at 71s. 6d.—cash. The remarks appended to the statement below, answers an important question in regard to the shipments for the past year.

The following statement has, in part, already appeared in the Journal; but, owing to several inquiries relating to it, we have obtained the Postscript, which answers a very material question, and one which the trade in general should be acquainted with:—

Note of the Shipments of Pig-Iron from Port-Dundas, Kirkintilloch, and Clyde, from 1st January till 31st December, 1846.

CLYDE.		PORT-DUNDAS AND KIRKINTILLOCH.	
From Jan. 1 till April 30 ... *Tons*	41,360	From Jan. 1 till April 30 ... *Tons*	51,330
May	21,370	May	21,384
June	14,850	June	18,166
July	12,800	July	16,791
August	12,670	August	14,372
September	11,100	September	12,867
October	12,070	October	14,030
November	9,300	November	11,475
December	8,800	December	9,000
Total ... *Tons*	144,349	Total ... *Tons*	169,415

Total ... 313,762 tons.

Gross production of pig-iron in all 1846 ... *Tons* 537,680
(This is taking the average number of furnaces in blast at 94—yielding say 110 tons weekly).

Deduct used for malleable iron purposes,	Yearly.	
By the makers—say 2000 tons weekly ... *Tons*	104,000	
Shipped, as above	313,782	
Local consumption in and around Glasgow, not under 1500 tons weekly	78,000	
Shipments from, and local consumption at, Kinneil, Ardrossan, Ayr, &c., not under 3000 tons weekly	156,000—651,782	

Making a deficiency in the production of 1846, of ... *Tons* 114,102

We have compiled the above from several authentic sources, and presume that it is as nearly correct as the present position of the iron trade (so far as statistics are concerned) will admit of.—ALEX. G. GILBERT, 6, Springfield-court.

P.S.—The above note of shipments, from Port-Dundas, does *not* include what was delivered in the canal—such as at Falkirk, &c.; these deliveries I have taken in as part of the local consumption; and the above exports are what have actually gone to Grangemouth and *out of* the canal to other ports.

LEAD ORE.

Douglas, Isle of Man, 9th January, 1847.

TICKETINGS FOR ABOUT 75 TONS (20 CWTS.) LAXEY LEAD ORE, AS PER CONDITIONS, WITH SAMPLES.

Firms.	*Places.*	*Per Ton.* £	s.	d.
Benj. Somers	Bristol	£20	7	0
Robert Michell and Son	Truro (21 cwts.)	20	16	6
Penpoll Company, per ditto	Ditto (21 cwts.)	20	16	6
Combmartin Company	Combmartin	19	12	0
Tamar Mines Smelting Company	Tamar River	19	12	0
J. T. Treffry	Fowey	19	11	6

Jan. 9.—MEETING OF DIRECTORS.—Mr. Somers is *declared* the buyer, at 20*l.* 7s.

Jan. 13.—An offer from Messrs. J. Walker, Parker, and Co., has now appeared, having lain in Douglas Post-office since Friday, the 8th (arrived within the prescribed time, but *not delivered*, from Walker and Co.'s clerk mis-spelling the secretary's name?) Mr. Somers is written to, and asked to give up the purchase (under such an *accidental circumstance*) to the still higher bid of Messrs. Walker and Co., which is 21*l.* 14s.

Jan. 20.—A letter to-day from Mr. Somers, in which he refuses to give up the parcel.
R. ROWE, Jun.

COPPER ORES.

Sampled Jan. 6, and Sold at Pearce's Hotel, Truro, Jan. 21, 1847.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
Devon Gt. Cons—Wh. Maria	127	£6 6 6	Poldice	57	£5 1 0
ditto	126	5 14 0	ditto	41	2 11 6
ditto	116	6 7 6	ditto	39	2 19 0
ditto	110	5 7 0	ditto	35	2 17 6
ditto	105	7 13 0	ditto	29	2 18 6
ditto	94	6 2 6	ditto	19	3 2 6
ditto	89	7 17 6	Fowey Consols	97	4 15 0
ditto	86	6 4 0	ditto	77	5 2 0
ditto	81	5 10 6	ditto	73	5 3 0
ditto	65	6 6 6	Wh. Friendship	101	8 0 0
ditto	54	5 16 6	ditto	93	7 6 0
Wh. Fanny	47	3 6 0	ditto	42	4 7 6
ditto	42	4 8 6	Wh. Jewel	41	7 0 0
ditto	34	7 17 0	ditto	40	4 6 0
ditto	24	3 6 0	ditto	28	4 4 6
West Caradon	92	6 16 6	ditto	24	4 9 0
ditto	85	7 5 6	Bedford United	110	4 16 6
ditto	83	6 19 0	Holmbush	98	5 18 0
ditto	74	9 4 6	Wh. Maiden	67	4 6 6
ditto	31	4 9 6	South Towan	49	3 16 6
Poldice	81	3 7 6	ditto	14	3 15 0
ditto	62	2 13 6	West Trethellan	49	2 19 6
			Pembroke	1	9 15 0

TOTAL PRODUCE.

Devon Gt. Consols—Wh. Maria. Wh. Fanny	1200	£7322 16 0	Wh. Jewel	123	£639 12 0
West Caradon	365	2644 10 0	Bedford United	110	541 15 0
Poldice	351	1185 5 6	Holmbush	98	536 4 0
Fowey Consols	247	1229 8 0	Wh. Maiden	67	262 15 6
Wh. Friendship	236	1670 13 0	South Towan	63	239 15 6
			West Trethellan	49	145 15 6
			Pembroke	1	9 15 0

Average Standard ... £93 9 0 | Average Produce ... 9
Average Price per ton ... £5 13 0
Quantity of Ore ... 2910 tons. | Quantity of Fine Copper, 262 tons 1 cwt.
Amount of Money ... £16,497 8 0
LAST SALE.—Average Standard ... £103 10 0.—Average Produce ... 7½

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	143	£763 3 6
English Copper	372	2321 4 6
Vivian and Sons	305	1700 16 6
Freeman and Co.	479	2530 11 3
Grenfell and Sons	357½	1748 4 9
Sims, Willyams, and Co.	399½	2219 10 3
Williams, Foster, and Co.	854	5213 17 3
Total tons	2910	£16,497 8 0

Copper ores for sale on Thursday next, at Pearce's Hotel, Truro.—Mines and Parcels.—Consolidated 973—United Mines 729—Tresavean 464—South Caradon 396—Treviskey 332—Perran St. George, Belonna, and Wheal Leisure 296—Grambler and St. Aubyn 230—Treleigh Consols 171—Trethellan 161—Par Consols 135—Wheal Sisters 109—Wheal Ellen 101—Barrier 76—Ting-Tang 60—Wheal Andrew 58—Wheal Clifford 57—Redruth Consols 23—Wheal Union 14.—Total, 4394 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Wheal Seton 550—Camborne Vean 541—East Wheal Crofty 476—Tincroft 438—Dolcoath 357—South Wheal Basset 280—North Pool 224—Fowey Consols 221—Condurrow 160—Wheal Comfort 158—South Wheal Francis 140—Wheal Bucketts 130—Trethellan 100—Wheal Brewer 95—Lanivet Consols 91—East Pool 78—Charlestown United Mines 71—Wheal Vyvyan 66—East Seton 52—Tretoil 48—Hanson Mines 41—Godolphin 28—Great Michell Consols 20—West Basset 16—Wheal Ruby 14—Wheal Courtney 10.—Total, 4405 tons.

COPPER ORES

Sampled Dec. 30, and Sold at Swansea January 20, 1847.

Mines.	Tons.	Prod.	Stand.	Price.	Mines.	Tons.	Prod.	Stand.	Price.
Cobre	95	13½	90½	£10 3 0	Chili	50	54	93	£42 9 6
ditto	92	13½	89½	10 1 0	ditto	45	54½	93	42 16 6
ditto	91	14	90½	10 8 0	Berehaven	114	9½	98½	7 4 0
ditto	80	13½	90½	9 18 6	Burra Burra	80	22	89½	17 9 6
ditto	76	14½	90½	10 10 6	Glasgow Slag	52	3½	121½	2 3 0
ditto	51	13½	90½	10 6 6	Kapunda	20	22	88½	17 4 0
Knockmahon	70	10½	96½	7 12 0	ditto	13	23	87½	17 17 0
ditto	64	9½	97½	6 12 6	ditto	8	21	87½	16 1 6
ditto	31	7½	104½	5 3 6	ditto	7	21½	87½	16 10 0
Chili	54	54	81½	41 14 6	ditto	2	24½	86	19 0 0

TOTAL PRODUCE.

Cobre	485	£4953 14 6	Burra Burra	80	£1399 0 0
Knockmahon	165	1116 8 6	Glasgow Slag	52	111 16 0
Chili	149	6304 0 6	Kapunda	50	857 19 0
Berehaven	114	820 16 0			

Total tons, 1095.—Total amount, £15,562 14s. 6d.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
English Copper Company	134	£956 0 0
Freeman and Co.	28	472 8 0
P. Grenfells and Sons	393	7095 15 0
Crown Copper	15½	80 4 3
Sims, Willyams, and Co.	87	1513 10 0
Vivian and Sons	273	2127 5 0
Williams, Foster, and Co.	164½	3297 12 3
Total tons	1095	£15,562 14 6

APPREHENDED RIOTS IN CORNWALL.—In consequence of threatened riots, caused by the present dearness of provisions, in the neighbourhood of Camborne, Redruth, and other mining districts in Cornwall, a sudden order was received at Plymouth on the 20th inst., to despatch military assistance, and the 5th company of the Royal Scotch Fusiliers, quartered in Plymouth Citadel were accordingly sent between 3 and 4 o'clock in the afternoon of the same day, under the orders of Capt. Symons. The 5th company comprises about 100 rank and file, strengthened by experienced men from other companies. The men were supplied each with 60 rounds of ball cartridge, and did not take their knapsacks with them. They were escorted out of the borough by the drums and fifes of the 14th Regiment; and it is understood that they were the first night to halt at Liskeard, about 17 miles from Plymouth; after which they would have three days' march of about 16 miles each day. A detachment of the 5th Fusiliers have been some time quartered in Pendennis Castle, Falmouth.

NOTICES TO CORRESPONDENTS.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained before Twelve, of all the news agents, at the Royal Exchange and other parts of London.

WHEAL TREHANE.—"A Friend to Honest Adventurers" (Liskeard) complains of the report from this mine, which appeared in the Journal of the 2d inst.; and enters into many particulars respecting her present state and prospects. We are, of course, always ready to correct any statement published by us; but "A Friend" must admit, the course would not be a very prudent one, to do so on anonymous authority; if his report be, as represented, *bona fide*, and merely corrective—why withhold his name?—which we require, not for the public, but as authority for ourselves, in giving publicity to statements affecting a property.

THE MINING JOURNAL
And Atmospheric Railway Gazette.

LONDON, JANUARY 23, 1847.

From what has transpired in Parliament since it reassembled on the 19th inst., it is satisfactory to see, that no factious opposition will be offered to the Ministerial measures, and the PREMIER will have the support of both Houses in the temporary suspension of the Corn Laws and Navigation Act, the admission of sugar for distilling and brewing; likewise, in the measures to be proposed relating to the amelioration of the present condition of Ireland—and the tillage of the land being one of them, it is to be fervently desired, with the blessing of Providence, all that the attention of the Legislature can accomplish in the course of their deliberations, may avert in the next the calamities of the past seasons.

The supplies of breadstuffs arrived, and on the way to the United Kingdom, in addition to the stocks in granary, and the further supplies that will follow the temporary abrogation of the Corn and Navigation Acts, will combine to remove all apprehension of an inadequate supply of food, until the next harvest; while the seasonable weather, since winter commenced in Europe and America, suggests the expectation the successive seasons may be equally propitious to encourage the hope of good average crops of spring and other corns.

The next important consideration is, in how far the balance of trade will be changed by the present importation of breadstuffs; and, seeing the principal supplies of them come from America, it remains to be ascertained to what extent returns to America will be made in British manufactures, as such reciprocity will remove the apprehension entertained in some quarters, consequent upon an extensive exportation of gold to pay for the excess of imports over the exports. In the shipment of British produce to America, the iron trade, in consequence of the alteration in the American tariff, may be expected to materially participate; and the low stock of pig-iron now in England and Scotland (to which we referred in our last number), being altogether insufficient to meet any increased foreign demand, it may be expected, as the foreign orders, and other extensive requirements, for iron for railway purposes, &c., develope themselves, to find the prices influenced from an inadequate supply to the demand.

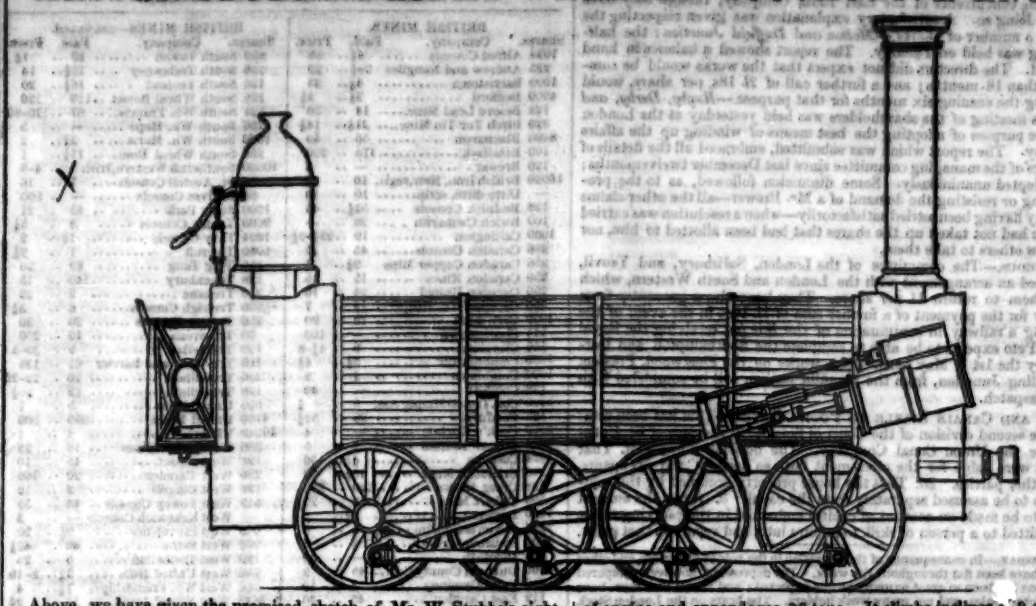
Assuming, from the importation of breadstuffs, the balance of trade to require some amount of gold to be exported to meet the difference; the stock of late, in this country, has been so much beyond what it is customary to estimate, as a satisfactory deposit of bullion to compete with the paper circulation, that, to a certain extent, it can be spared, without disturbing the demand for labour, upon which has so much depended the comparative satisfactory position of the English population during this winter; where, united with other parts of Great Britain, railway labourers have been employed to an extent requiring the weekly wages of 260,000*l.*

This is a "great fact," and one our cotemporaries adverse to the promotion of the required railways should be cautious not to disturb; *or, what is spent in wages, may be demanded in poor-rates.*

In the previous publications of the MINING JOURNAL, it has been demonstrated these 200,000 railway labourers are now preparing roads to require, at the estimate of 1000 men, making no more than 12 miles of railway in a year, *two million tons of iron in the present year*, which is more than the entire make of the country, allowing for an increased production of about 500,000 tons on previous years.

It is a distinguishing characteristic—perhaps a distinguishing glory—of the present race of Englishmen, that they are to be found in every climate, and throughout every shore, diligently and adventurously putting forth their utmost strength for the attainment of that one universal object of human desire—a competent, and, if possible, an increased, share of the goods of fortune. For this they sound the depth of the deepest seas, and invade the solitude of the remotest continents, allured by the prospect of their latent treasures. No matter how imminent the hazard, or how tedious the hardship, they will "adventure for such merchandise." Amongst these migratory flocks, the last few years have exhibited a tolerable sprinkling of the hitherto home-loving and home-cultivating miners of Cornwall. For all we know, it might be neither politic nor prudent to discourage, or to dam up, if that were possible, this efflux of the teeming population of these islands; but as to that unique class of which we have spoken, we think there are several cogent reasons why the tendency should be considerably restrained. In the Journal of the 17th ult., there was an extract from the interesting volumes of Sir F. HEAD, enumerating the particulars in which the miners of Cornwall would, in almost all the mines of the American continent, have to exercise their practical skill under circumstance of manifest disadvantage—to that enumeration we beg to refer our mining friends, whether superintendents or operatives. Of course, there are other difficulties which follow in the train of those specifically mentioned, and which must accompany any set of men who commit themselves to a new climate, to a new theatre of labour, and to a new company of masters. The good they do appears to be to those they leave behind—for whom they have, in some measure, cleared the stage and lessened the competition. It is something to miss the comfort which every man feels from going in and out among his countrymen and companions; and also to know that a vast ocean rolls between himself and the home of his friends; and, if one in whom the instincts of our common nature are not dead, of his affections also. It is something more to miss those external incentives to a Christian life, which the visible institutions and attractions of a Christian church continually present. We should insert these particulars, not small, if duly estimated in his balance-sheet, and they, we think, would not slightly increase the sum of his losses. Moreover, we doubt very much both the propriety and the justice of his depositing the practical arts of this ancient kingdom, of his ancient country, in the memorandum book of the foreigner. The amount of mischief he can do may not be very great—it is enough for his condemnation that he has done the most he could. The arts of which we speak, and those conjointly cultivated with them, are the foundations of our nationality and our wealth; and he who contributes to export and alienate them, is doing the work of a bad servant and a disloyal citizen. These general considerations will not have equal weight in all minds, nor can we affirm that they admit of universal application; but they will affect, if they do not determine, the balance of some opinions. We do not see that we ought to teach the mine owners of Cuba and Peru the most efficient methods of finding and of raising their ores, and then their dressing and their reduction. Regarding (the miners may say) what we sacrifice, and what we incur to impart this instruction, we have settled it with ourselves that, if we do impart it, it must be for the sake of some really commanding consideration, and such as

MESSRS. STUBBS'S EIGHT-WHEELED LOCOMOTIVE ENGINE.



Above, we have given the promised sketch of Mr. W. Stubbs's eight-wheeled locomotive engine; the following are its dimensions:—cylinder, 18½ in. diameter; 24 in. stroke; eight wheels, 3 ft. 4 in. diameter; weight of engine and appendages, 32 tons. It climbs inclines of 9 and 11 inches to the chain, with one-fourth more load than engines of the same power, having only six wheels coupled.

men in our circumstances could not be expected to resist. We suggest to our mining friends, that language of this kind would be wisest, wholesomest, discreetest, best, when terms of foreign employment are purposed to them; they will not then transfer to a hostile soil the arts by which they have thriven, and their successors hope to thrive in this—they will not sow in a distant hemisphere those dragon's teeth, which, by a rank and a rapid maturity, may be converted into weapons to wound and to crush their children withal.

In consequence of the ironmasters' monopoly in France, and the delay experienced by the leading railway companies in completing their lines, from not being able to obtain their rails, chairs, locomotives, carriages, and other requisite *materiel*, from the contractors at the time specified by them—the Minister of Public Works has announced that the Government will not allow any more railway bills to be presented during the present session, and that no further concessions will be made, until the lines in progress are completed. This wise determination on the part of M. DUMONT will have a very beneficial effect, as it proves to the ironmasters, that the Government will not long sanction their monopoly and broken promises to the companies, which has proved most ruinous to their undertakings, and also caused a general decline in all railway shares. Much of the present difficulties are to be attributed to the pertinacity and interested motives of the Minister of Commerce and Finance, in not yielding to the numerous addresses and urgent petitions of some of the most influential men in France, for a reduction on the importation of British iron, rails, machinery, &c., to enable them to carry out the enterprises they had embarked in, and that by the sanction of the Government itself, which has betrayed them, by allowing an extortionate *clique* of ironmasters to monopolise the markets, and charge enormous prices for their metal and machinery, so that they cannot proceed without incurring losses, which they never will be able to cover. It is possible that the French Government, which is hard pressed for cash, will see the error they are committing, in exacting high duties, next to prohibition, on English mining industry; and that they will modify the tariff before there is a general bankruptcy in railway investments—as it is proved, on the best authority, that the iron and coal mines of France cannot supply a sufficient quantity to meet the increasing demands, which proves how unjust has been, to the public and the national welfare, a law which has been the general outcry of every party, except the monopolists.

SILVER-LEAD ORE.—Some time since, we mentioned that a vessel, with a valuable cargo of silver-lead ore, had been wrecked on the French coast. The cargo was consigned to Mullins, Brothers, and Co., smelters, London. This week a vessel arrived in the Thames with, it is said, the greater part of the ore in leather bags, recovered less injured than could have been expected. But of this we could not ascertain the fact; for, while the cargo was being discharged into Mullins and Co.'s barges, the ponderous paw of the Custom House was dropped on the vessel; which vessel having now arrived from a foreign port, the ore must be proved to be of British produce, and the captain's papers were said to be somewhat irregular. The captain stated that the ore was originally from the River Tamar; evidence of which having been given, the cargo will forthwith, after a week's delay, be allowed to be discharged.

PRACTICAL APPLICATION OF GEOLOGICAL SCIENCE.—The benefits of Art and Science are reciprocal; and geology, at least, is capable of well repaying the large debt which it owes to the experience of the miner and the engineer. As an example—there is hardly a district in this island where the reasoning of geology has not checked extravagant expenditure in search of coal or ores where such are really not to be found. On this subject, a modern writer appositely observes:—"The false and deceitful promise of finding good coal by going deeper, will not often again lure the landed gentry and respectable companies to such adventures as sinking for coal in the oolities of Oxford, the sandstones of Sussex, or the silurians of Radnorshire." But it is not merely by preventing foolish and wasteful expenditure, in search of imaginary treasures, that geology has aided the mining interest: it is within our memory that the eminent practical men of the great northern coal-fields doubted or denied even the existence of coal under the magnesian limestone. Yet now the Hetton Colliery, and (in consequence of Mr. W. Smith's *Geological Report* in 1822) the South Hetton Colliery, send enormous quantities of excellent coal to the London market from beneath the dreaded magnesian limestone. The almost universal prejudice of colliers that "red rock cuts off coal," has been vanquished in Lancashire, Staffordshire, and Somersetshire; and reasons have been given by Conybeare and others for believing, that under the red rocks of the midland counties great tracts of coal remain for the public advantage and the triumph of geology.

IRON SHIPS.—In the House of Commons, on Wednesday evening, Mr. R. YORKE asked the Hon. Secretary to the Admiralty, whether it was true that 16 iron ships of war had been ordered, without previous inquiry of their powers and efficiency for the service; and whether the report of the Admiralty of France, showing the utter inefficiency of iron ships for the purposes of war, was not in the possession of the Government at the time the said ships were ordered?—Mr. WARD said, he might state that a return of iron ships of war, laid down and launched since the beginning of 1840, had been ordered; but that he was not aware of any report of the French Admiralty, showing the inefficiency of iron ships for warfare, or of any extensive experiments having been tried on the subject.

NEW PATENTS AND REGISTRATIONS.

E. Lenard, Chester-street, Kennington, for improvements in obtaining motive power.

J. M'Intosh, London, for improvements in rotatory engines, and in moving carriages up inclines, and in propelling vessels.

E. Vickers, Sheffield, for improvements in machinery for cutting files.

T. Shears, Bankside, Southwark, for improvements in treating zinc ores, for the purpose of producing zinc ingots, which improvements are applicable to the production of other ores and metals.

T. Onions, Calais, France, for improvements in rotatory steam-engines.

G. Beadon, Taunton, Somerset, and A. Smith, Princes-street, Leicester-square, London, for improvements in warping or hauling vessels, which improvements are also applicable to moving other bodies.

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

Notwithstanding the free trade movement does not at this moment presents quite so favourable an appearance as could be desired, there is still no reason to despair that it will before long be able to modify, if not annihilate, the atrocious monopoly on iron and coal—the former especially. One great reason for hoping for this result is, that the partisans of the ironmasters are evidently losing their wits, and becoming absolutely wild. Take, in proof of this assertion, the following extract from a recent number of the daily newspaper, *La Presse*, which is, in every respect, the ablest and most influential organ that the monopolists possess:—

"It is calculated, that the railways in course of construction in Europe require 6,157,000 tons of iron. That is more than four times the annual production of Great Britain, which is only 1,500,000 tons. It will be seen, then, that our ironmasters have no reason to be alarmed at the situation of things—*for they may easily, during the next four or five years, gain enough to get back all the capital invested in their establishments, and to put themselves in a position to support a notable reduction, if not the absolute suppression, of the protective duties they enjoy. As to railways, if it be desired that those actually commenced be not subjected to delays in the delivery of their rails, no new lines must be undertaken, unless, indeed, they be prepared to see them indefinitely delayed, and to pay their iron 60 PER CENT. DEARER than ordinarily.*" What a lesson is there in these few lines! What momentous truths they contain! And how clearly they demonstrate the odious iniquity of the giant monopoly which weighs upon this country! We see from them them that the ironmasters win back all their capital in four or five years, and besides gain enough to enable them to be prepared to meet a less favourable future. Is there any other branch of enterprise in the wide world in which the same thing is done? In France, certainly, there is none—not one. Here people think themselves happy, if, with unflagging labour, they can gain 2 or 3 per cent. on their capital; 5 or 7 per cent. is considered splendid; 7 to 10 is a limit beyond which the wildest hopes of the wildest speculator never think of going. And, then, mark the modesty with which these iron monopolists warn their country that no more railways must be made—for no more iron is to be had for years and years to come, unless, indeed, at a price as high that it would be almost an economy to employ rails of silver instead of iron. France is already behind all the nations of Europe as regards railway communication; and yet her *patriotic* ironmasters, who have extorted millions and millions from her people, coolly forbid her to think of increasing her iron roads. Really, if the ironmasters desire their monopoly to be maintained, they must be raving when they allow such monstrous admissions, and such iniquitous assertions, to be put forth. Their bitterest enemies could not produce stronger proofs than they themselves have afforded in these statements, of the great odiousness, the crying iniquity, the monstrous criminality, of their monopoly.

At a recent meeting of the St. Etienne and Lyon Railway Company, it was stated that the demand for coal was so immense, that the company had had great difficulty in meeting the requirements of the public. It had, however, succeeded in conveying upwards of 760,000 tons, and will soon be able to convey upwards of 1,000,000 tons. It expects before long that a much larger quantity, even than the 1,000,000 tons, will have to be conveyed, and, therefore, it determined on increasing its capital. The amount realised by the company in the latter half of the year 1846, for the conveyance of coal, was 1,740,878 fr.

The Minister of Public Works has lately conferred on M. Warsequel, a mining engineer in Belgium, the cross of the Legion of Honour, for having invented a new system of entering and leaving mines, which combines safety with dispatch. The system, unfortunately, is not described, but I shall shortly be able to get a description of it for you.

Letters of the 15th inst. from St. Dizier state, that on the preceding Monday, a bargain had been made for 500,000 kilogrammes of *fonte blanche*, at 100 fr., taken at the furnaces. This price will appear extraordinarily low, and low, in fact, it is—but it soon became pretty well known, that it was only accepted to bring down prices; and that, in fact, the seller had received what is called a *pot de vin* of 2500 fr.—respecting which, he undertook to observe secrecy. It was known, also, that he had received ready money for the order, although the delivery of the iron is only to take place in about six months. If the 2500 fr., and the interest thereupon, be added to the price agreed for, the real quotation of the 500,000 kilogrammes would be about 196 fr., instead of 100 fr.; and, as the *fontes* thus sold, are known to be about 6 fr. less in value, than those of the Haute Marne, prices may be regarded as firm at 200 fr., whether at St. Dizier or the furnaces. The *fontes de moulage* were in great demand, but the latest quotations showed no variation, with the exception of a very slight difference in one or two articles. From Paris, the intelligence was of a decline of price of wood; but, from the Vosges, and Lorraine, and all the departments of the east, the intelligence was such, as not only to destroy all hopes of that kind, but even to create apprehensions of a further advance. At St. Dizier, it appears, that no small apprehensions are entertained with respect to the eventual result of the free trade movement. The people engaged in the production of iron in that neighbourhood, are somewhat in the position of "the thief, who sees in every bush an officer;" for they feel that their monopoly is scandalously unjust, and the slightest cry against it frightens them.

A trial has at length been made on the atmospheric branch of the St. Germain's Railway, and has succeeded, it appears, perfectly. In few places is this system subjected to so severe a test, as it has to ascend an incline of 35 millimetres per metre—being seven times greater than ordinary locomotives can accomplish on ordinary railways in France.

The Northern Railway Company has to complain of a falling off in its receipts, caused mainly by its inability to fulfil all the requirements of commerce for the conveyance of merchandise. It has long been waiting for the delivery of 500 waggons, and is likely to have to wait much longer. The cause of the delays will be readily surmised—the total impossibility of our friends (the ironmasters) to deliver the iron they ought to have supplied months and months ago.

The state of the Bourse is deplorable. Everything has declined awfully, and is still declining. Nevertheless, mining enterprises appear to have undergone no loss of favour. Yesterday, the Vieille Montagne shares were done at 6150 fr., and in others there were various transactions.

Great distress continues in almost all parts of France. The coal company of Anzin has devoted a large quantity of coal to the poor, and other companies will no doubt follow its generous example.—*Paris, Wednesday.*

Original Correspondence.

ON THE TRANSFER OF SHARES IN MINES.

SIR,—Your Journal of Saturday contains a statement, calculated to alarm all those who hold shares in mines, without, as I think I can show you, the slightest ground for any such alarm. You are, I am fully convinced, wrong both in your law and your inferences. You rely on the "customs of Cornwall," and the "exception in the Joint-Stock Companies' Registration Act," as exempting transfers of shares in mines, worked on the Cost-book System, from the operation of the Stamp Act—but surely you must be aware, on consideration, that custom cannot be set up against the express words of an Act of Parliament, and *that* Act a Revenue Act; and the exception in the Joint-Stock Companies' Act is totally beside the question. The latter Act was passed to regulate the formation and management of Joint-Stock Companies, and contains a clause, "that nothing in it shall extend to any partnership, formed for working mines on the Cost-book System,"—thus leaving the law, with reference to those companies, *precisely as it was before*; for no one will contend that such an exception *repeals a former Act of Parliament*. The question, then, turns solely on the Stamp Act; and by that all transfers *upon the* SALE of property of *any kind or description whatever* (with certain specified exceptions, which do not comprise shares in mines), are subject to an *ad valorem* duty; and all *other transfers*—that is, not upon sale—are subject to a general Deed Stamp—namely, of 30*s.* on the transfer of shares in Joint-Stock Companies, and 35*s.* on the transfer of all other kind of property. But, besides that, the *very forms of transfer used by the mining brokers*, recognise the liability of these transfers to Stamp Duty, as they contain an agreement, on the part of the vendor, to deliver to the purchaser, a *transfer*, "*duly stamped*," if such be required, within 12 months.

The liability to the stamp is thus acknowledged, and the only question can be, *what is that "proper stamp?"*—whether the general stamp of 1*l.* 10*s.*, or an *ad valorem* stamp? But, whatever may be the proper stamp, it is immaterial, *so far as concerns the* PRACTICE *of transferring shares on the Cost-book System*—that practice is to send a duplicate of the transfer; or rather, I believe, in most instances, a *notice of the transfer, signed by both buyer and seller*, to the *purser of the mine*, requiring him to substitute the purchaser's for that of the seller, in the Cost-book of the mine; and, upon that being done by the purser, the purchaser stands, to all intents and purposes, a partner in the mine, in respect of the shares so transferred to him; and, from that moment, the *transfer in his possession* is looked upon as little more than so much waste paper—and when he sells again, is never handed over to the next purchaser, as his title. He refers, in fact, to the cost-book, and to that only, as his title. Now, according to this practice, it is utterly immaterial whether the stamp required by the transfer be the *ad valorem*, or the other stamp; for, in fact, it never becomes necessary to *affix any stamp at all*, unless the purchaser should afterwards find it necessary to produce the transfer in a court of justice, and *then* he must take it to the Stamp-office, and get the proper stamp affixed. Such a necessity, I believe, does not arise in one case out of 10,000, nor, perhaps, once in 10 years. It is easy, however, to imagine that such a necessity *may occur*—for instance, suppose A sells to B, and signs the usual transfer, and B afterwards finds it necessary to impeach the transaction, on the ground of fraud, and to sue A for the return of the purchase money. It is clear, that in *such a case*, B must get the transfer *properly stamped*; and that he must take it, being a signed document, to the solicitor of stamps, for the purpose of having the "proper duty" marked upon it.

Now, if the solicitor observes that the transfer expresses to be for a valuable consideration, but without stating what that consideration is, both *A and B* will find themselves in the predicament of having subjected themselves to a heavy penalty—not for having *omitted to stamp* the instrument (*for to that no penalty is attached*), but for having omitted to state the real consideration on the face of it—but whether B, under such circumstances, following up the prosecution of his rights in the due course of law, deserves to be "exposed" as an "informer," or can, with any propriety, be designated by that name in its offensive sense, may, I should think, be at least questioned. It seems to me, that a man who gives information to the police of a robbery committed in his house, may, with as much propriety, be called an informer. Your alarm, then, about the sacrifice of the mining interests, by the imposition of heavy duties on the high-priced shares, is altogether groundless. The question only involves a slight alteration in the form of the transfer—namely, by striking out the words "for a valuable consideration," and substituting the real consideration. *The after proceeding, with reference to the purser and the cost-book*, will be *precisely the same as before*. The stamp need not be affixed, unless subsequent events should render it necessary, which, as I before observed, is not likely to occur in one case out of 10,000. And it is important to remark, that the *notice* of the transaction, which is sent to the purser, *need not be altered from the present form*, as the Stamp Act only requires that the *"principal instrument"*—namely, the transfer, which the purchaser keeps—shall have the true consideration stated on the face of it. Thus not person, except the buyer and seller, and broker, if one be employed, need know the price paid for the shares. I fear, however, that the article in your paper will have caused much alarm and uncertainty among the mining brokers, and the sooner that is removed the better. In stating the real consideration in the transfer, they cannot get wrong. The parties alluded to in your paper may litigate the question, which has arisen between them, as much and as long as they please; but the result, be it what it may, will be, as I think I have sufficiently shown, of the smallest possible consequence to the mining interests.—A SOLICITOR: *London, Jan.* 18.

[In this matter, we feel only interested so far as concerns the Mining Interest—let those concerned in the sale and purchase of mining property be satisfied they are not open to the "chance" operations of some ill-understood Act of Parliament, perhaps on the information of some characterless adventurer, and we are content. Our object, in a great measure, will be answered, by a discussion on the subject; consequently, we welcome the letter of our correspondent, and trust it will be followed by others from parties interested; for we feel that more benefit must arise from an exposition of the intents and objects of the Act, through our columns, than any proceedings in a court of law could effect.]

THE VENTILATION OF MINES.

SIR,—I have read your descriptive account of Mr. Gibbons's plan of *working*, as well as ventilating, coal mines, in your Journal of the 9th, which is certainly obscure; as well as your new version of the method recommended in your last Number. This, of course, *condemns* the ordinary methods of *working* coal. From first to last, you will bear witness, that while *ventilation alone* was considered the grand panacea for the evils of life destroyed, and health lost, and the system of working entirely overlooked, I have, from first to last, insisted that a new system of working coal was imperatively required; and you admit, from your advocacy of Mr. Gibbons's plan, the necessity both of a new method of working, and a new plan of ventilation. In the earlier part of the process, no one can fail to observe, that the principles, so long advocated by Mr. James Ryan, are taken for his guidance by Mr. Gibbons, and thus their merit is clearly acknowledged —*suum cuique*.

That the *upcast shaft*, in the usual method of working and ventilating collieries, not only performs its office indifferently, but frequently is *auxiliary* to the very mischief it is intended to avert, there can be no rational doubt whatever. Instead of it being solely and exclusively appropriated to the purpose of a ventilating shaft, which it ought to be, it is tampered and interfered with, being appropriated to other purposes. I have already recorded my opinion in the *Mining Journal*, that a furnace, *at the bottom* of the upcast shaft, is MISCHIEVOUS—because the air, under particular circumstances and conditions of the atmosphere above, *will descend*, and produce a *reflux* in the atmosphere of the mine: moreover, the upcast shaft is far *too wide*, in ordinary cases, to ensure a perfect draught; it should also have a *dome below*, and be gradually contracted, like a chimney, towards the top. If there is an axiom, more self-evident than another, it is this—namely, the exclusive appropriation of the upcast shaft to the ascending current: here Mr. Gibbons is perfectly right, and inattention to this, among many others, has been the capital error. Mr. Gibbons is also entirely correct in his advocating the necessity of the air travelling uniformly in one direction, and to one point; instead of being split into parcels, or divided or subdivided *ad infinitum*, and forced into eddies, and to sweep through labyrinths and round angles, by a rude and dangerous multiplicity of stoppings, and trap doors, and brattices—so full of error and so fraught with danger. If I understand Mr. Gibbons aright, he seems to admit that the gas, with which the field of coal is charged, may be made *naturally to discharge itself*, in the process of working the coal—Mr. JAMES RYAN, "*iterum iterumque*"—so think I. That all the air passages should converge, as in a common centre, undistracted and undisturbed, at the dome under the upcast pit or ventilating chimney, is sufficiently self-evident. I think, also, that the *principle*, referred to in my last communication, of promoting a *double* current, might, under many peculiar circumstances, be successfully applied in coal mines.

In reference to *safety lamps*, I have repeated, more than once, that they were a lesser evil (but still a serious one), adopted to prevent a more tremendous mischief; and, further, that in mines where their use was imperative, the health of the miners was severely compromised. That it is most devoutly desirable we should get rid of safety lamps altogether is, therefore, admitted; and that, in a well-regulated system of working and ventilation, their employment may be entirely dispensed with, I entertain not a shadow of a doubt: here, then, Mr. Gibbons and I are "as one" again. I cannot, therefore, but conclude that Mr. James Ryan, slighted and set at nought as he has been, *first* taught the miner the true principles of working a coal seam, and the path which would alone conduct to a successful issue; but the obstinacy of Ignorance, like a rock of adamant, stood in the way. Mr. Gibbons's position, that two shafts of unequal length, on the principle of the inverted syphon, will form a self-acting and ventilating apparatus, is founded on sound principles, and is, indeed, a position which can never be shaken, or taken by assault—it is firm as the foundation of the globe, and stable as the laws of Nature. But I see no necessity for a chimney so lofty as Mr. Gibbons would erect, or, *indeed, for one at all*. If the throat of the upcast shaft be gradually contracted, and enter a *well regulated furnace* above, the towering chimney may most certainly be dispensed with, and the furnace be a successful substitute. The mouth of the upcast shaft, or ventilating chimney, must be covered with *numerous folds of wire gauze*, to prevent the retrogression of explosive flame. The expense of constructing such lofty chimneys would be very considerable, and appear to me altogether unnecessary; as precisely the same end may be secured by a furnace. In some cases, I apprehend, it might require a chimney as lofty as that of St. Rollox, in Scotland; and all subject to the contingency of being blown down in a storm.

I must, however, join issue with Mr. Gibbons on the question of the non-interference of Government. If ignorance and obstinacy were *not* in the way, and self-conceit, the offspring of these foul "night birds," had not to be combatted—if the mind was generally open to conviction, and men would pay their ready and willing homage at the shrine of Truth, then, indeed, there would be no necessity for Government, or the Parliament, to interfere; but as it is far otherwise, and the very reverse is the fact, they *ought*, and *must*, adopt the question.—J. MURRAY: *Portland-place, Hull, Jan.* 20.

ON THE VENTILATION OF MINES.

TO BENJAMIN GIBBONS, ESQ.

SIR,—I have read, with great pleasure, your book on the *Ventilation of Mines*; and, from the little knowledge and experience I have on that subject, I confess I think you have taken a step in the *right way*, and have come nearer the object "so devoutly to be wished"—namely, a pure air for the miners to breathe in, and freedom from the risk of being hurled into eternity at a moment's notice, than any one who has yet written upon it. Indeed, we have had so many schemes proposed for the ventilation of our mines since the accident at the Haswell Colliery, that it has become almost tiresome to read them; at the same time, I give the authors credit for having done *their best*; and, as the subject is one of such vital importance to so many of our fellow-creatures, no one ought to be blamed for having given his opinion, but rather encouraged to do so, that the public may have the benefit of whatever experience they possess.

I trust, therefore, *I* shall be pardoned for making a few remarks upon *your* mode of ventilation, and attempting to show how I think *even your's* might be considerably improved. Your plan of chimneys, high enough to create a sufficient draught for the proper ventilation of the mines, *without any artificial aid*, is, I think, most excellent—as well as that of returning the air to the surface as soon as it has passed round, or through, the workings of *one* pit, instead of, as is sometimes the case, passing it from one pit, or working, to another, until it has become quite unfit to breathe, as well as very dangerous, on account of the gas it contains. These two things, I consider, form nearly the whole of your plan, that has any originality in it—as the mode of driving the air headings *high* in the coal, was at least talked of, when I was a boy, in Staffordshire; and, as I understood, practised in most of the collieries in that county—(*query*, was not this Ryan's plan?) If, however, you have raised your's a little higher than your neighbours, so much the better, as it is impossible to go *too high*, as the gas will be sure to follow you while you *ascend*—only afford it the means and opportunity to escape *upwards*, and it will soon disappear, or become so weak, as to be quite harmless. It is when the bottom of the upcast shaft is on a *lower level* than the windroads, or workings, that the great difficulty and danger arises; and I must here remark, that I think your plan does not *fully* meet this difficulty—inasmuch as you are obliged to take all your air back again to the pit's bottom, however great the distance may be, or whatever proportion of gas, or other impurities, it may contain.

In page 25 of your book, you say, that "the air-head shall not be below the level of the workings;" and yet you do not show us how you get the air, gas, &c., from the crop or bassit side. Suppose you drive a heading or stall to the crop but one yard, and your vein rises 1 in. only per yard (if I understand it), your upcast pit is at once *lower* than the face of such heading or stall, and you have an inch thick of gas floating at the top of it, which you cannot remove without *pulling it down hill* into the wind road. How, then, I would ask, would you do where the mines rise 18 in. in a yard, as they do where I am now employed? At the distance you proposed driving your face of work from your main-gate road—viz.: 90 yards —we should be 45 yards perpendicular *above the level of the wind road or upcast shaft*, and just in the same proportion let the measures rise whatever they may. My opinion, therefore, is, that, if you can work with safety where the measures are perfectly flat, you cannot do so where they rise at ever so small an angle; and, therefore, your plan will not do for *general use*. I will now suggest to you, what *I* think would make it capable of meeting *every difficulty*, and give perfect protection to the miners, let the veins be as *fiery* as they may. Instead of sinking two pits, or, as you propose, a *pit and a piece*, on the same level, I would sink them at right angles with the level-course line, and let the crop pit have one of your high chimneys on it; you will then find no difficulty in getting rid of the gas, let the quantity be as large as it may. AIR-BITS OUGHT ALWAYS TO BE PLANTED AT THE OUTSIDE CROP OF THE VEINS OR PIT'S BOUNDARY, and proper air-courses kept open into them; they would then as effectually drain our mines of their gas, heated air, &c., as the sewers of London drain that city of its waters—the one having a *natural* tendency to go uphill, the other down. I would just mention here, that, at the time of the accident at the Risca Colliery, in Monmouthshire, I was called upon to accompany my friend, Mr. Deakin, of Blaenavon (than whom a better judge of these things does not exist), into the workings; and, at that period, a plan of this sort was suggested, which, I am happy to say, is now being carried out, by sinking a shaft 8 ft. diameter at the crop of the mines, for the *sole* purpose of airing them—the old one, although quite as large, being upon the same level as the downcast shaft, having proved insufficient. This done, and proper air-ways kept open, and one of your *high chimneys* on the top of it—and Mr. Russell, the proprietor, may justly boast of as good a system of ventilation, or, perhaps, the best that has ever yet been discovered. I mention this as a case in point, to show that your plan *alone* will not meet *all* the difficulties of the case; but that your's, together with the one I now propose, *will*.

Before I conclude, allow me to make a few remarks upon the construction of your shafts and air-chimneys; as, I fear also, for *general purposes*, they would not be found to answer, even if you could overcome the difficulties I have named. My first doubt about it is, that, in squeezing or heaving ground, or where the veins through which your shaft passes have been worked, no partition you can put in will stand; for the very fact of your having made the shaft 2 or 3 ft. one way longer than the other, so weakens it, that it will be continually crushing together, and, allowing the air and gas to escape, which would render the shaft quite unsafe for the workmen to pass through with their lighted candles, and become quite as dangerous as any other part of the work, or, perhaps, more so. It is well known, that pits, quite cylindrical, do not stand the crushing and heaving of the ground as the different seams of coal and ironstone are taken from about them, and often want repairing. How much less, then, would *your's* stand, which is 2 or 3 ft. longer one way than the other, with only a brick partition in it? This might not yet have happened in your case, if the upper seams have not been worked, and large pillars of coal left around the bottom of your shaft; but, whenever that takes place, your partition will require more repairs and attention than the expense of sinking a *proper air pit in a proper place*.—JAMES CATCHAM: *Tredegar Iron-Works, Bridgend, Glamorganshire, Jan.* 19.

FILLING OF BLAST FURNACES.

SIR,—This operation is usually conducted in a slovenly and inefficient manner. About 40 years since, my father adopted a circular mode of filling, thereby increasing the make of iron from his furnace, as also diminishing the consumption of fuel per ton of iron. His plan was to fill on a large quantity of cokes, and then to place the mine close to the sides of the furnace top, keeping the centre open, for the blast and flame to ascend. Besides the above advantages, it was found that the lining of the furnace suffered very little disintegration, because the current of the blast passed up the centre, or axis, of the furnace, instead of up the sides, as usually happens. The effect thus produced is, in some situations, very striking; but, in certain localities, the circular filling does not realise similar advantages, especially with cold-blast. Like many of my father's improvements, this plan has been either slighted, or adopted, by ironmasters, without their acknowledging or accrediting its inventor. In some situations it has been found impossible to obtain a good yield from the blast furnace, without a rigid adherence to circular filling.—ROBERT MUSHET: *Coleford, Jan.* 18.

GREY CAST-IRON FROM AN AIR FURNACE.

SIR,—Many years ago, my father, Mr. D. Mushet, made a series of experiments upon artificial materials, prepared for use in blast furnaces. His object was to form a compound of rich ores of iron, with clay, lime, and carbon, in a state of comminution, which should admit, through the adhesive nature of the clay, of being made up into rough lumps for fusion in the blast furnace. The discovery of hot-blast rendered the smelting of rich ores a matter of no further difficulty, and the subject was for that time dropped. Reverting lately to these experiments, and following them up by others, I succeeded in combining rich ores with clay, lime, and carbon —so that, when made up into rough lumps, by the addition of water, and subsequently dried, these materials produced, by fusion in a small air furnace, a highly carburetted grey cast-iron. ROBERT MUSHET.

Coleford, Jan. 18.

MAGNETIC IRON ORE.

SIR,—Some of the principal formations of iron ore in Great Britain are of the magnetic class; they are, however, little known, and have, as yet, been worked only to a trifling extent. I am acquainted with three or four districts, where magnetic iron ore is found in immense quantities; and if "F. G." will send me his address, I shall be happy to point out to him their locality.—ROBERT MUSHET: *Coleford, Jan.* 18.

MAGNETIC IRON ORE.

SIR,—In reply to an inquiry, made by "T.G.," of Manchester, magnetic iron ore can be found in this neighbourhood. JAMES TAYLOR.

Plâs Gwanas, Dolgelley, Jan. 20.

RAW COAL IN THE BLAST FURNACE.

SIR,—There is nothing better known to practical men than the kind of coal safe to use raw in the blast furnace. The caking coals vault over, and impede the blast—while the fragile fall to dust beneath the crushing superincumbent weight, choke the hearth, and put a stop to the progress of the lower operations. Much experience was gained through the extensive basin of Wales in the variety of coal, stretching from the bituminous east to the anthracite region of the west. The following is the result of an act of great ignorance or mischief—the use in the blast furnace of the Coleford High Delf, known, perhaps, as the most insubstantial coal in the kingdom. After a number of charges, without mixture of coke, amounting to nearly the contents of the furnace, great difficulty supervened in keeping the tuyeres. One failed in spite of every effort; and, for near a week, the chief part of the iron flowed over the cinder noteh of the most infusible kind—the hearth being set level over. The dust was prodigious; the furnace worked by slips 8 or 10 ft. in depth, until, at length, from 8 in the morning till 4 in the afternoon, the materials were not seen to move. They then set exploding like a volcano, to the great danger of the structure—a hooped furnace; dust and small mine, rising with a lofty emission of flame, covered the platform 8 or 10 in. in depth, and, falling below, set fire to the workmen's clothes. No fillers or others fortunately were entered on the platform, or loss of life would have inevitably occurred, and made more serious this warning on the use of an improper coal. It is true, that, in addition to its defective quality in the best state, I have seen barrows of small coal and coal dust filled in as if a blast furnace were only a depository for rubbish; this no doubt aggravated the effect.

Gloucester, Jan. 19. DAVID MUSHET, Jun.

GUN COTTON APPLIED TO MINING PURPOSES.

SIR,—We have read much, in your Journal, of the wonderful results accomplished by the use of gun tow, or gun cotton, compared with gunpowder. Now, Sir, it would be conferring a great benefit to those engaged in mining pursuits, if some of your practical correspondents—and, I must add, there are several I could name—would so detail the method of its application to the blasting of rocks, that the uninitiated could safely practice its use, and so satisfy themselves of its superiority, or otherwise.—A QUARRY AGENT: *Festiniog, Monmouthshire, Jan.* 15.

SUBTERRANEAN SURVEYING.

SIR,—Under this head, I find an inquiry, in your paper of the 9th of this month, from a "Subscriber in Glamorganshire," who evidently has heard of the instruments manufactured by Mr. Wilton, of St. Day, but has not correctly heard his name. As your answer does not set him right in the matter, I beg to subjoin a short description of the instrument which seems to have given rise to his inquiry. I presume it is "Wilton's miner's theodolite; or, improved miner's dial and quadrant." This instrument answers all the purposes of the land surveyor's theodolite, but is particularly adapted to subterranean surveying. It consists of a 5-inch circumferentor, with either folding or sliding sights, rack adjustments, with vernier scale to two minutes, spirit level, &c. To this is attached another instrument (immediately over the centre), called the quadrant, which has also a level attached, rack adjustments, moveable limb, with sights, and vernier scale, giving the vertical angle to one minute; and, at the same time, giving also the underlie and perpendicular, in feet and inches, to every fathom of the hypothenuse, or slant line. The circumferentor may be used as a simple miner's dial, without the quadrant; but, when combined, answers all the purposes of the "theodolite," properly so called.

The constructor of this instrument, Mr. Wilton, of St. Day, Cornwall, has, for many years, been very persevering in this department of mathematical instrument making, and has deservedly obtained from the Polytechnic Society of his native county several prizes for this, and other instruments adapted to mining purposes.—A CONSTANT SUBSCRIBER: *Jan.* 18.

VENTILATION.

SIR,—The principles of ventilation are sufficiently simple, yet either remain uninvestigated by the many, or altogether repudiated, or set at defiance. The whole may be reduced to a few simple axioms. Heated air ascends—the heavier column of air will displace the lighter—cold air will rush from above, and *descend* into a heated apartment, or an atmosphere possessed of a superior temperature. It follows that any gas, however heavy, at ordinary temperatures, may by heat be so rarified, as to attain any elevation, till counterpoised by a medium equally attenuated. When coals yielding *flame* are used in the fire-place, the space in the chimney above is rarified, and ventilation promoted; while the current continues to ascend the chimney, when heated throughout its extent, if undisturbed by a reflux current, in the case of adverse wind from some particular direction of the compass. The application of the flame of a candle, or a taper, will illustrate these principles—near the crannies and crevices of the window, the flame will be impelled inwards by the currents. In the door way, the candle placed on the threshold will show a current flowing into the room; in the centre it is stationary—and, toward the top of the doorway, there will be an efflux outwards. In the case of panes of glass made to open in the centre of a window, or valves in the roof, cold air rushes from without, or descends from above, into the heated apartment, and precipitates the noxious products of combustion and respiration—any individual may easily convince himself of the fact, by being seated near the one, or beneath the other, when he will become too sensible of the fact, in the cold air which beats upon his head. In the fire-place of the bed room, in the absence of a fire, the candle will be sometimes all but blown out by the cold air descending the chimney. In one instance in this severe season, my candle was extinguished by the rush of the cold air down the chimney into the bed room. Therefore, though heated air will primarily ascend in a room, cold air will descend from an opening in the roof or ceiling, and cooling it down, precipitate the previously attenuated and lighter atmospheric air.

There is *only one way* to get rid of a deteriorated or impure atmosphere.

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and insure perfect ventilation. That plan is as simple as it is pre-eminently successful—the air in contact with the ceiling, or the roof, is conducted, by means of a pipe or tube, with a chimney, where there is a continual or constant fire, as that of the kitchen. When every other plan had failed, this, on my recommendation, was carried into effect in premises at Chatham, and its success has been most triumphant; where, from the want of ventilation, it had been previously intolerable. I may add, that a *double current* may be promoted by the means recently adopted in some of the banking-houses, insurance, and other offices in London, as applied to the window—the slips of glass being attached in the manner of the Venetian blind: it is quite effective, and the principle is good. J. MURRAY.

Portland-place, Hull, Jan. 18.

CONSUMPTION OF SMOKE.

SIR,—*Several years ago*, I saw in practical operation the plan for consuming smoke, referred to in a paragraph in your last; and for which, it is further stated, *a patent* had been taken out by Mr. T. M. Dean, of Stockport. I am at a loss to understand how a patent could be realized, after having been so long before the public; and when I saw it, there was no attempt at any concealment, or exclusiveness; and I was even shown a model of the principle on which it acted. Of its sufficiency for the purpose, there can be no doubt. The furnace was worked by hand when I saw it, and there was no *engine* then attached, as a supplement for manual labour. The principle is merely carrying out what I have eliminated these 20 years past; and I still think my plan, so repeatedly recommended in public, is the *simplest, cheapest*, and *best*; and of an application so easy and universal, that it might be admitted, without hesitation, into the arrangements of domestic economy. The method I propose for consuming smoke proceeds, of course, on the admitted fact, that the carbonaceous matter, developed in the case of ordinary fuel yielding flame, proceeds from an imperfect combustion, and that it may be entirely consumed in its transit through intensely ignited matter. All that is necessary, therefore, is to have a grating in the higher part of the chimney, with a furnace door, in order to supply *ignited coke*, or *anthracite* (stone coal)—and this may open from without, or from within. The smoke from the fire below is effectually consumed in its transit through the incandescent coke, &c.; and this will be further facilitated by parallel iron bars, a few inches above the coke, which will be, in like manner, preserved red hot. The arrangement, in question, will also materially aid the ventilation of the chimney, where it is defective.—J. MURRAY. *Portland-place, Hull, Jan.* 15.

IMPROVEMENTS IN WORKING COLLIERIES.

SIR,—In my last communication to the *Mining Journal* it was my intention to have given a few facts founded upon experiments, which, in consequence of professional engagements, I was compelled to defer. Having attentively compared the Davy and the Clanny safety lamps (which are both extensively employed in some of our best coal mines), in respect to the safety and strength of light, which they afford to the coal miner, I made a variety of experiments upon the last-mentioned subject. Being aware that Leslie's photometer, for determining the relative intensities of what is called artificial light, or such as that emitted by oil, candles, or gas, cannot be relied upon in comparing lights which differ in colour, because the relation between the heating and illuminating power of such lights is exceedingly variable—for instance, the light emitted by burning cinders, or red-hot iron even passing through glass, contains a portion of *heating rays*, which is out of all proportion to the *luminous rays*, and, consequently, they produce a greater effect upon Leslie's photometer than some lights, whose illuminating powers are considerably stronger; I, therefore, came to the conclusion, that in order to estimate the relative strength of light emitted respectively by the Davy and the improved Clanny safety lamps, two efficient and simple plans might be adopted. My first care was to arrange, so as to measure the intensity of the two lights emitted by the above-mentioned safety lamps; I adopted Count Rumford's method, in order to determine the comparative strength of light, so as to approximate to the truth, by observing the distance from each light, at which a given object, such as a printed page, could no longer be distinctly visible in reading—being aware that the illuminating power of the lights, so compared, must be as the square of their distances. The results were such as the enlightened readers of your Journal had reason to expect; I found that the strength of light afforded by the Clanny safety lamp was at least equal to that given out by *four Davy's*. Not content with this, I adopted the following plan in the second instance:—I need not mention, that the experiments were performed in a room from which the light of day was totally excluded. I placed two Davy's upon the table; and, as I anticipated, it was needful to add a *second*—a *third*—and, ultimately, a *fourth*—before I could obtain a light equal to that emitted from the Clanny lamp. Need I write more. Let others make experiments upon this very interesting subject, and judge for themselves. As some change may be expected in process of time, when we perform experiments of this description, it struck me that there might be some difference in respect to the light afforded by the Clanny and Davy safety lamps, after combustion had been continued for two hours. I may premise that the safety lamps were well trimmed with good oil: having all things in train, I examined the Clanny and Davy safety lamps, and found that the *latter* was choked with soot throughout the whole cylinder, except for about an inch surrounding the flame—the Clanny lamp was clean, clear, and cool. I now found that a *fifth* Davy was needful to equalise the light, so as to keep pace with the Clanny safety lamp. These results gave me so much satisfaction that I used a Clanny lamp every night in one of the passages in my house, and I am very much pleased with it. T. R. TORBOCK, M.D.

Kirkby Stephen, Jan. 18.

ON THE WELSH MODES OF GETTING COAL.

SIR,—I am glad to see my friend "D." again in the field, and I am doubly glad to see him in the character in which he has thought proper to appear. It is my fault to be too fond of satirical writing—I can bear blunt, plain contradiction; but, when contradiction is clothed in vague insinuations, and in the language of abuse and misrepresentation, my small stock of patience soon evaporates; and, giving way to the impulse of my feelings, I reply in satire, and often, very often, upon consideration, against my better feelings. I misunderstood "D."—in fact, there seems to have been a misunderstanding on each side, and we must mutually excuse and forgive each other. I am always open to conviction, and never attempt to *cover my errors*, as charged by Mr. Deakin; I, therefore, hasten to reply to "D.," both as an act of courtesy, and as an act of justice. This gentleman demurs to the statement I made of $\frac{9}{10}$ths of the coal of South Wales being got on the slip; he must allow me to qualify that assertion as follows—viz.: that $\frac{9}{10}$ths of the collieries in the easterly part of the South Wales basin (always excepting the collieries particularised by "D.," and which were never intended to be included, as I can prove by the rough draft of my letter of the 15th ult.), are worked upon the principle which I, conjointly with "D.," condemn. I am sorry that my communication should have reflected upon the character of a body of men for whom I entertain the highest respect, and more so, as, from personal acquaintance, I am well aware of their merit, and of their public and private worth. I never dreamt that my communication would be meant as applying to them in any respect; and when "D." dated his letter from "Merthyr Tydvil," and Mr. Deakin from "Blaenavon," I looked upon their interference—and interference I certainly considered it—as a species of nationality. I have stated before that I cannot particularise; but, if "D." will let me have a line through you, as our common friend, I may probably give him the information he requires. My object in writing upon the subject was to endeavour to produce an alteration in the method of working, confident that it would be beneficial to both employers and employed—and to replace an antiquated, barbarous method, by one of a comparatively refined and exalted character. I have succeeded in directing attention to it, and that is one step. I must now correct "D." for a statement which appears in his letter, charging me with piracy, with making certain claims to certain discoveries—viz.: to the particular method I described of working the coal, and also to the direction of the slip—I descry such claims. My alteration, or proposed alteration, was stated to be merely *an introduction* of a method; and I stated that, in some instances under consideration, it was not applicable—and why? because the method was already adopted; so much then for that claim of originality. The second, "priority of notice of the direction which the slips run." My letter of the 30th of November last, will show that I never made the claim with which I am charged. By reference to that letter, and from which the following extract is made, it will be seen that I only stated the similarity of bearing betwixt them and the end of the coal in the more northern coal-fields. My words are—"It is remarkable that the bearing of the end of the coal in one description, and of the bearing of the slips in the other, are essentially the same, both running within a few degrees of north (and now comes the supposed claim):

this is a peculiarity that has not—at least, so far as I am cognisant of it—been noticed by any writer on geology; and it was this circumstance of general identity that first turned my attention to contrast the different methods of working," &c., &c. Now, I think it will be evident to "D.," that, upon a reconsideration of this extract, that I have not made the claim he mentions—nor, in fact, have I claimed anything, but merely stated *the identity* of the slip and end; and if that identity has been noticed before, I was not aware of it. I did not think proper to notice "D.'s" reference to this in his first, as I considered it merely as a *ruse*, thrown out to divert attention from the main facts of the case. The carrying out of the method I proposed, is a matter of little consequence; the great evil remedied, the lesser ones will follow in his wake. I thank "D." for again directing attention to it.—F. B.: *Jan.* 12.

IMPROVEMENTS IN WORKING COAL.

SIR,—I have been, for some time past, engaged in making a model of a machine for getting coal, which I expect to finish in a few days. By this machine, I propose to work the coal of a more suitable size for the market, than it can be worked at present. I intend to dispense with the use of powder, and to save all, or nearly all, the waste arising from the present mode of "kirving," holing, nicking, &c. I propose to apply this machine to the working of the "thin," as well as the "thick," coal seams. If your correspondent, "Carbonarius," will favour me with his address, I shall feel obliged, as I wish to ascertain some particulars respecting the coal he is working, in reference to the application of the aforesaid machine.—WILLIAM STOREY: *Bensham, Gateshead, Tyne, Jan.* 19.

MONSTER ENGINES.

SIR,—I find, in your Journal of the 15th inst., an account of an improved locomotive, which, it is expected, will be able to convey trains of passengers from London to Birmingham in two hours—the shortest time ever contemplated. Now, the copy of a specification, which was laid before the directors of the London and Birmingham line, by a party in South Wales, bearing date October 15, 1845, which I now have before me, leads me to understand that greater speeds have been contemplated to be run on that line, than that mentioned in your Journal of the 15th inst., by the parties who laid their specification before the directors of that line; the specification included six first-class coach engines, with a 12 ft. driving wheel, which they contemplated would run the distance between London and Birmingham in one hour and thirty minutes; and I venture to say, that the parties alluded to will guarantee to run the distance before mentioned in even a shorter period of time, than they then offered to do it in, with one or more of their patent safety swift engines, the heating surface of which exceeds 2000 feet; and as the directors of that line are consenting to do something in the shape of going ahead, I wish them, and their talented engineer, every encouraging success in their honourable undertaking.—A CONSTANT READER: *London, Jan.* 20.

THE ÆRAS OF CREATION.

SIR,—It is clear, the difficulty in reconciling science to revelation has arisen always in our limited ideas of the meaning of God's Word. Habituated to certain interpretations, we fix a sense according to the standard of our ignorance, which we call our knowledge. When science reveals some new fact, we start in horror, and say science and religion are conflicting—whereas it is not religion, but some petty prejudice in a corner of the mind, which is being overthrown. This is forcibly exhibited in the objections made to geology, on no better ground than vague notions respecting the divine account of creation. We hear passages talked of as difficult, as if it were wrong they should be so, or possible they could be otherwise, or that the Book of Genesis ought to have been "Creation made easy"—forgetting that a finite being, who contemplates a record of the acts of infinite power, so far from quarrelling with difficulty, should thank devoutly the Inspirer of all Light, if he understands it at all.

Man will bring down the hammer of decision on the anvil of his ignorance—strike off judgments as impetuous as absurd, and shut to upon himself at once the door of further attainment. I cannot agree with those who irrevocably fix the æra of the primeval earth in the age of Adam, nor when we read, that "in the beginning God created the heaven and the earth," consent that that "beginning" was the outset of the evening and the morning of the first day, coeval with the beginning of day, and six days and nights precisely before the life of man. It was in the "beginning" that these things were made—a stupendous expression, which carries us back beyond the 6000 years of man's existence, as far as it is possible for the human imagination to travel. To believe that the heaven and the earth were created only when man was made, is a conception derogatory to God. Can we believe that the Almighty exercise of creation had been no longer active than the 6000 years which man has breathed—that the infinity of worlds cast round us with dazzling splendour are but so many years as these in their duration? The acts of the All-Infinite must have been extended and carried down through a series *before time*, as we call time, and included in that incomprehensible phrase the "beginning." Nor is there anything in the book revealed to contradict it; we are told, that, subsequent to the beginning, "the earth was without form and void" in this period, is sufficient scope for "the convocation of saurians and reign of reptiles," to which Dr. Murray quaintly and eloquently expresses his objection. The evening and the morning were the first day—but we know not how *long* that dreary evening was, nor what strange shades of twilight prevailed before that evening had begun; and what nights and days were those which came before the lights were set to rule them?

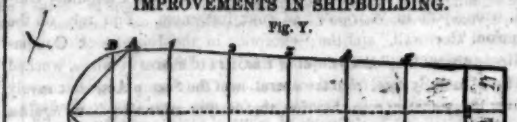
There is no question, that as geology approaches the very confine of creative power, and leads us near to mysteries that must be for ever mystery to man, the mortal who traces with awe the relics and vestiges of that tenement where he is placed without his will, and whence he goes unwilling—his soul into the air of eternity—his bones to crumble with those remnants of unheard-of things, which came whence he knows not, and shall go whither he cannot tell—marking thus the lines and foundations of our dwelling-place—it is the most sublime of sciences—it brings the speculations of infinity down into our bosoms; and, while each planet and all the heavenly theory are indifferent—"for what care we whether "one star differeth from another in magnitude"—in our own earth our affections are bound—astronomy but gazes on obstruction—geology treats of the reality of our "being," and all that hangs round that inconceivable word; and yet we know nothing. While we canvas the measures of our eternal Lawgiver, scrutinise the record he has deigned our incapacity, and settle how this and that thing have been done millions of ages *past*, we cannot agree upon the *present*, nor come to an acknowledged decision whether the centre of our residence be hot or cold. Can anything make man's "knowledge" more ridiculous? We can only speculate. Who can tell why coal is found in sandy and micaceous earth?—why pure quartz cuts off these strata from the lime, which we are equally unable to account for, lying underneath it? We can theorise, and say the lime was formed in a vast ocean—that the conglomerates underneath it are the pebbles which rolled on that sea-shore, and spread beneath its waves, until marine deposits incrusted and buried all. We may imagine currents depositing the siliceous and micaceous particles over these; while the purer quartz sank to the bottom upon the lime; and the suspensile matters, rising in their order, formed, with soft and soluble clays, the upper strata. Then reeds, gigantic in dimension, and other vegetable matter, grown somewhere, were intermingled in the mass, and *somehow* stratified in succession. But what of this is satisfactory? We do not know it! It can be conceived; but, cling to it as you will—search through all its possibilities—the mind falls back dissatisfied—the appetite for truth craves reality, and to be told, indeed, how these things came. Whence came the iron in the mountain lime, to pour its ponderous currents through the caves, from east to west?—what caused this?—what separated this?—whence was this grown?—or, what in the upper measures stratified that weighty body alternating with light coal? These are the touchstones for the theorist, who, though fleet of fancy, must be more than ostrich to digest them.

Let us go on our humble way, adding fact to fact. Like astonished children, wondering before a complex machine, the day will come, when our great Master shall appear. While we, His children, toil with care and labour to attain a glimpse, that we may unravel curious mysteries, the knotty dealings of successive years, His voice shall say, "What do ye here?" As a dream at morning, the enigma shall be solved—our theories shall vanish, with all we think we see—then "shall be a new heaven and a new earth," and *truth* itself revealed, such as "eye hath not seen, nor ear heard—neither hath it entered into the heart of man to conceive."

In my last, is a word of which I cannot claim the parentage. I used the term "sphericity"—equally, nay, more correct for a spheroid, is an oblate, or other imperfect sphere. Again, the "vertex" of a "globe,"—I wrote "the notion of a radius of 4000 miles travelling, &c." Conceive a radius of 4000 miles, the earth's corresponding surface will be a mathematical point—always revolving, this extreme never but once, and that only in the tropics, meets in 24 hours the sun's vertical rays—clearly figuring their impenetrative power.—DAVID MUSHET, Jun.: *Jan.* 18.

IMPROVEMENTS IN SHIPBUILDING.

Fig. Y.



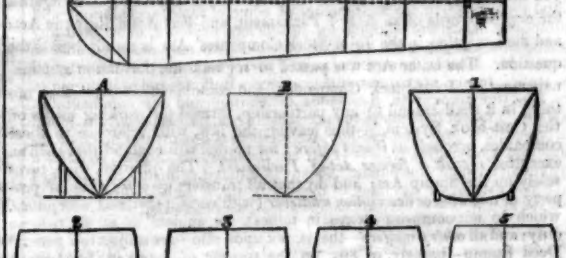
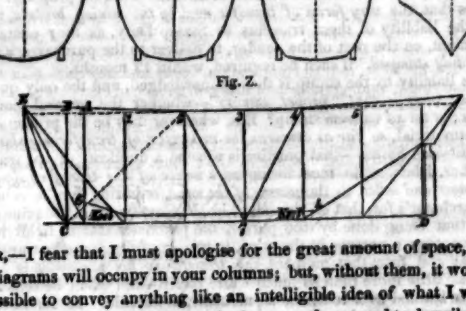


Fig. Z.



SIR,—I fear that I must apologise for the great amount of space, which my diagrams will occupy in your columns; but, without them, it would be impossible to convey anything like an intelligible idea of what I wish to propose—I will, therefore, without further remark, proceed to describe them as concisely as possible:—Fig. Y is a plan of the deck of a vessel, built in the proportions laid down by me in my letter last week; it is divided into six parts, at equal distances from each other, corresponding with similar divisions in fig. Z, which is a longitudinal midship section of the same vessel, her length of keel being from C to D, and her extreme breadth equal to one-third of that length, or two of the six parts into which she is apportioned; her entire depth amidships, from the deck to the bottom of the centre plank, or keel, being as the length of the line which besects the equilateral triangle, one of whose sides is equal in length to the extreme breadth, see triangle (2, 7, 4); the rake and curve of the stem should be the segment of a circle, having its radius equal to the length of the line from the second division on deck to the fore end of the keel (see fig. Z, C, 2), and the height of the stem such that the cord of this arc, C, E, shall be equal to one side of the equilatoral triangle—this, together with the shape of bow, I will shortly propose, will always assure the vessels rising on an opposing wave, and give her a tendency at once to resist the downward pressure arising from the leverage of the masts, and thus divert the energy of the force applied to them directly to its legitimate end—the propulsion of the vessel. I will now proceed to the formation of the bottom: in one of my former letters I stated, that a vessel would meet with less resistance in sailing, if she was borne upon her bottom in the water, instead of being suspended by the line of the greatest average breadth fore and aft her length, as is now the case with sharp-bottomed vessels; in order to effect this, and to displace the water as near the surface as possible, I would make the bottom the segment of a circle, with a radius equal to the length of the line bisecting the equilatoral triangle (see fig. 1), which is the transverse section at 1, in the figures Y and Z—figures 2, 3, 4, and 5, also A and B, being likewise transverse sections at the similar numbers and letters in the figures Y and Z. The breadth of the bottom is determined by the point, where the circle drawn at same radius from the extremity of the breadth on deck, cuts the circle, forming the bottom, as at E, in figure 1—by this means, as the vessel narrows on deck, the bottom must, of necessity, narrow in an exactly similar ratio, and the form of the side being in all the figures a segment of the *same circle*, having the *extreme* breadth as its radius, only the difference in breadth, both of the bottom and on deck, as each section arranges the segment of this circle in a different manner, and causes a modification in the shape as the vessel narrows; for reasons before stated, it would be useless with a bottom of this shape to place the keel in the centre, because, as the vessel laid over to one side, it would lose its effect in a degree proportioned to its removal from its central position; but this would be obviated by placing a keel on each side at the termination of the arc, formed by the bottom in the figure 1, or the broadest part, and continued parallel to each other to the transverse section at 4 (see figure Z), and carried forward to 6, in section A, of same figure (see the different sections, 1, 2, 3, 4, and A, which show how those keels would be arranged, coming down exactly on a line with the lowest part of the bottom in its centre); by placing the keels in this manner, when the vessel was upright, she would be found to steer with very small helm, and, when she laid over, with the wind on the side, the keel on the lee bilge would place itself directly underneath, and, being deeper than any keel in the centre of the bottom could be made, it would offer a much more effectual resistance to lateral drift—at the same time every part of the sides and bows, being shaped from segments of the same circle, would, in the altered position, still have the same water line; and thus, by equalising the resistance of the sides, the helm would not be required to be nearly *a-weather* when upon a wind, as is now the case with vessels as at present constructed; because, when they lay over the lee side offers more resistance than the weather one, and the rudder is required half over that way to counteract this effect—the speed of the vessel being very much impeded by this drag on the stern-post. By the arrangement I propose, the vessel will steer as freely upon a wind as when going large, and all sailors know that nothing conduces more to swift sailing than good steerage. As I have already taken up much room, I will defer further explanation until another letter.—NAUTICUS: *London, Jan.* 14.

IMPROVEMENTS IN SHIPBUILDING.

SIR,—On looking over the series of letters by "Nauticus," I apprehend he has expressed the subjoined opinions, and I should be glad to ascertain if he still adheres to them as the foundation of his views on shipbuilding?

1. That he has demonstrated, that, with a given breadth, the amount of resistance from the inertia of the fluid will be the same, arrange the angle of incidence as you will. As a vessel progresses through the water, the whole of the surrounding fluid is pressing upon her equally, in a direction contrary to her course, simultaneously throughout her whole length—consequently, the wedge shape of the bow is useless.—*Oct.* 14.

2. That the greatest breadth of the vessel is the fulcrum, on which the forces, governing her motions in the water, act and react on each other.—*Oct.* 7.

3. That, in traversing a distance equal to her length, a vessel displaces a quantity of water equal to her weight.—*Nov.* 24.

Agreeing cordially in my fellow correspondent's views of the importance of improvements in shipbuilding, I trust he feels the necessity of a clear understanding of the objects and reasoning of the proposer of a superior method; and, moreover, in the present state of inductive science, I think he will admit the propriety of the question, whether he is acquainted with any experimental proof of the law which he has enunciated in his letter of the 18th of November, 1846, that "the resistance increases as the depth of the water; and that, to displace one cubic foot of water at 10 feet below the surface, will require 10 times more force than it would to displace a like quantity at the surface." Another law, that the resistance of water is as the squares of the velocities of a moving body, has been proved experimentally, subject to an interference—the nature and character of which was ascertained in 1834.

4 The idea, that a flat-floored vessel floats on the water supported on her

bottom, and that a sharp-bottomed vessel is suspended at her greatest breadth seems to appeal rather to the imagination than to the mechanical notions of a centre of displacement or a centre of gravity.—*Dec. 9.*

I wish to submit to your readers some of the principal assertions of "Nauticus" in one view, in case further discussion should be deemed necessary.

Penryn, Jan. 16. S. S.

CENTRAL HEAT—HYPERCRITICISM.

SIR,—Mr. Mushet is quite right; central heat has no necessary connection with the pre-Adamitic hypothesis; but was incidentally alluded to, and introduced, in exemplification of some of those speculations and assumptions, which are adopted on insufficient evidence, or without any proof at all; and the truth or error of which, we may never be able to realise. Mr. Mushet, however, is as well aware as I am, that the original idea sprung from a very questionable source—Buffon—and was turned to very doubtful account in the hands of Hutton, and his commentator, Playfair. I meant to inculcate the necessity of *caution*—especially required in a branch of science like geology, where there is already too much of romance and the imaginative.——Your last Number, Mr. Editor, contains a "ryghte merrie and conceitede" display of inflated egotism; its parallel I never met with—as a specimen of hypercriticism, it is altogether unique—

Valeat quantum. "——The earth hath bubbles, as the water hath;
And these are of them."

"*Quis talenti Grauchus?*"

Portland-place, Hull, Jan. 18. ——— J. MURRAY.

THE POTATO DISEASE.

SIR,—Not only has chlorine a decided influence in checking this disease, but even the chlorides possess, to a great extent, this power. Last year, after steeping slightly-diseased potatoes in a weak solution of chloride of lime, I endeavoured in vain to complete the decay and destruction of the tuber, by burying it amongst a heap of diseased tubers, in every stage of decomposition. The disease was arrested; and the tuber remained, as before its immersion in the solution of chloride. If I had to plant a quantity of potatoes, I should, after cutting the sets, steep them in a solution of chloride of lime for a few hours, and afterwards allow them a few days, to become as dry as possible, before planting.—ROBERT MUSHET: *Coleford, Jan. 18.*

SILVER AND GOLD MINES OF THE NEW WORLD.—No. II.

But if individuals have often been disappointed in their hopes, and if very often fortunes drawn from mines have been swallowed therein, the country has gained by this ardour in metallurgic pursuits. It has drawn from it great salaries, which a vast population of miners still enjoys—the *quint* of the king, at present paid to the republic, which is considerable; the accessary industries, particularly that of conveyance, which occupies myriads of mules, and regiments of muleteers (*mozos*). The mines have led to the cultivation of the soil for the wants of the population, occupying in working them, or in industries connected therewith. Wherever the working of the mines has taken a great extension, there has been created a flourishing town, which is sometimes as populous and monumental as a European capital—Guanaxuato, for example, which in 1810 contained 80,000 souls.

The veins of Mexican Mines are of surprising dimensions—they are giant veins. That of *La Biscaina*, that one sees here, was several *metres* in thickness. The vein called *La Veta Madre*, worked at Guanaxuato, has rarely less than 8 metres, and has at times as many as 50. A bed of silver ore of 50 metres thickness! What would the heroes, who went to the bottom of Colchide, to seek a little gold dust, have thought of it? The *Veta Madre* has been worked on a length of more than 12 *kilometres*, although the treasures that have been drawn from it came almost exclusively from a space of from 1500 to 1600 *metres*, comprising the famous concessions of Valenciana and Rayas. The *Veta Grande* of Zacatecas has generally from 5 to 10 metres, deducting two beds of sterile rock which exist there. At *San Acasio*, the same vein has the double; and more to the north, in the concession of *Guadalupe-y-Calvo*, the vein possesses a thickness of from 7 to 8 metres. I do not quote here examples of extraordinary thickness, for the veins abound. By the side of the *Veta Madre*, of Guanaxuato, several others may be counted. It is a veritable web of veins—a compact web—that is worked at Fresnillo, a little to the north of Zacatecas.* To cause to be appreciated the importance of these Mexican veins, it is useful to mention that, in Belgium, people seek with profit, at 400 metres underground, in spite of a thousand obstacles; and in struggling against subterranean floods, and against perfidious fire, beds of coal of 50 *centimetres* —not more *centimetres* of coal than there are *metres* of silver ore in the *Veta Madre* of Guanaxuato. I do not here take for term of comparison the silver mines that Europe possesses. Silver mines, properly so called, are rare on the old continent. Silver is mostly obtained as an accidental product, speaking metallurgically, of mines of lead or copper.

The silver mines of Mexico are veins in the exact sense that science gives to the word—that is to say, masses pretty nearly undefined in length and depth, and of a thickness tolerably regular, which cut transversely rocks of a nature quite different. The *gangue*—that is, the paste which forms the body of the vein, and in which the ore is disseminated—is *quartz*: a hard substance, which resists the severities of the seasons, though the adjoining rocks cannot. The same is common in several parts of France—in Limousin, for example, where the roads are charged with it; and, again, it is that which composes in great part the pebbles of rivers, for other rocks less hard have been broken and destroyed by the friction, whilst the quartz resisted. The veins are recognised on the surface of the soil by a crest strongly designed (*creston*). The rocks, which traverse the veins, are generally clayey schistes, greenish coloured rocks, ordinarily covered with leaves; or strata, composed of remains of older earths, and scientifically analagous to freestone. Such are the deposits of Guanaxuato, Zacatecas, and Fresnillo; or they are secondary *calcaires*, as are seen at Tasco, where the veins cut at the same time other beds; or, lastly, they are porphyries—Real del Monte is an example. In the neighbourhood of the veins, we see habitually appear the nipples of porphyry, which prove a rising of the earth, owing to porphyric masses springing white with heat from the bosom of the earth during a convulsion, which caused to spring up the veins themselves, or which, probably, confined itself to exposing the earth, already rendered rich in silver.

In Mexico, the greater part of the rocks composing the terrestrial crust, either from belonging to that class of earths which present themselves in regular beds above the other, because they have been deposited by the waters, or from ranging themselves in that other class which owes its origin to fire, and which, by consequence, does not offer the disposition in beds or ranks, which result from aqueous origin, are cut by veins of quartz. One of the characteristics of these veins on the Mexican soil is to contain generally metallic *sulphurs*, combinations of iron, or zinc, or copper, or lead, with sulphur, which plays so important a part in Nature, and it is very rare that, in the midst of these sulphurs, that of silver is not found; the vein then forms a mine of that precious metal. Now, as we advance from Mexico towards the north, we see multiplied these veins of quartz more or less mixed with metallic sulphurs. According to M. Duport, when directing ourselves towards the Gulf of California, we traverse the principal chain once on the western side; the entire country is composed of rocks, furrowed with veins of quartz over an immense space. That proves, he adds, that the deposits worked for three centuries are nothing compared to those which remain to be worked. These general characteristics, or others analogous thereto, are repeated on the greater part of the long chain of the Andes, and in ramifications that the chain throws on the right and the left. The substances with which silver is in combination may vary; the rocks traversed by the veins are not everywhere absolutely the same—thus, in Mexico, the veins of silver are only by exception in *calcaires*, elsewhere they rest therein habitually; and in Peru the mine of Gualgayoc has a vein across calcareous beds, of an epoch relatively recent, although infinitely anterior to that at which geologists ascribe the deposit of chalk, of which are formed vast spaces, as in the environs of Paris. Such a *gisement* is considered in science a rarity; but the dominating fact in the general economy of the globe, is the privilege which this chain of mountains possesses, of offering on upwards of 14,000 kilometres in length, deposits of silver with unequalled frequency, and of unequalled thickness. Take a map of Mexico, and work thereon all the localities in which a mine of silver has been worked, as well as those in which indications of silver have been recognised; and you will find that they occupy on the map, with but short intervals of non-continuation, a straight line oblique to 45°, relative to the equator, from the 16th to 30th degree of latitude.† The development of this oblique line is of more than 2000 kilometres. At the north there are the mines of the environs of Guaimas, of Batopilas, of Morelos, of Gundalupe-y-Calvo; in the centre, Guanaxuato; in the south—here, Tlapujahua, Augangueo, Sultepec—there, Pachuca, Real del Monte, and Chico. Often even the same vein is recognised at long distances. Thus, the *Veta Madre* of Guanaxuato was worked from 1803 on a length of 13 kilometres. It must have been one of those convulsions, to which the crust of the planet was subjected at diverse epochs, thousands of centuries before the appearance of man, that this direction, pretty nearly rectilinear, was operated in Mexico. Moreover, this phenomenon seems to have been reproduced at the same instant on the new continent, on all the length of the immense chain of the Andes. At that time, an abundant injection of matters (*argentifères*), came from the interior of the globe, must have penetrated the petrified envelope, and filled up the fissures. Well proved resemblances authorise it to be considered that the innumerable veins disposed in Mexico, along the line of 2000 kilometres, just indicated, have a common origin, which will have opened them, and filled them at the same instant. They are all directed the same, and all formed pretty nearly of the same substances.

What an idea one has of the resources of Mexico in the precious metals, when to silver we add the gold that the country presents! It will be seen, however, that the production of gold is much less than that of silver, not only in weight, but even in value.

The mines of precious metals have for Mexico this particular advantage, that alone, this day, they can furnish it an object of great exportation. Cochineal, of which Mexico has the privilege to be almost the sole possessor, did not figure in its exportations, even at the period when the country was most flourishing, for more than 480,000‡. Mexico is a country admirably gifted by Nature—it is a garden, the richest and most varied that can be imagined; everything grows there. In going from the coast to Mexico, you ascend a succession of terraces, which offer one after the other, and sometimes one by the side of the other, all kinds of culture, all kinds of production, from those of the burning countries of the torrid zone to those of the icy regions of the pole. You see the entire series of useful vegetables, from the sugar cane, the indigo of meridional Asia, and the coffee of Arabia, to the lichens of Iceland, as well as the cotton, olives, vines, maize, and corn, on which Europe lives. It is not, however, an easy thing to utilise for the commerce of exchange this marvellous aptitude of the soil, to give all to man in exchange for a little labour. The population (without doubt, because it fears the climate of the litoral, and knows what it costs during eight months of the year to frequent the flat shore of Vera Cruz, quarter-general of the yellow fever), has taken refuge on the most elevated lands which form La Cordillère, and become sufficiently dense to occupy all the interval between the two oceans by which Mexico is bounded. People are concentrated on the Cold Land (*Tierra Fria*)—the climate of which, however, is not like its name, for the winter season at Mexico resembles the finest days of the month of May at Paris. The name which, in the estimation of a European, would be best adapted to this part of the country, would be that of the "Dry Land." There are no watercourses that can be canalised in such a manner as to afford means of economical conveyance. The fine plain to which has been given the name of the Valley of Mexico, situated entirely in the Tierra Fria, is the only part of Mexico in which it would be possible to establish a good system of navigation. In a new country, where there is little industry—where the distances are great—where the public treasury is empty—and where security for industrial associations has disappeared—no one can think of establishing railways. On the elevated lands, roads might be opened, and maintained at little cost; and there are a certain number of cart roads which are more or less fit for use, although nobody meddles with them; but along the declivities, here and there abrupt, by which the elevated lands unite themselves with the banks of the sea, they would be dear. One only had been established—with magnificence, it is true—that from Perote to Vera Cruz—joining Mexico with that port; but at present it is very bad. Thus, all the abundance that the country can render—all the articles of exportation, such as sugar, cotton, coffee, which form the life and prosperity of the United States and the West Indies, that are produced in the Hot Land, and the corn of the Cold Land—an article of which the United States send great quantities to both worlds—all this fertility of the country is, whilst the roads are in their present state, worth nothing for exterior commerce. Mexico produces its own sugar, cotton, coffee, and corn, but sends none abroad. A foreign commerce of any extent is not possible but with the aid of the precious metals. Under the colonial system, the working of the mines was the object of the particular care of the Government, which exerted itself to apply all the resources that science then possessed in the Peninsular; and in spite of the smallness of such resources, the solicitude of the authorities produced most satisfactory results.

* It must be mentioned, that the thickest veins are not always those that contain the most metal. Often the little veins, called by Mexican miners *ribbons*, compensate for their feeble dimensions by extraordinary richness.

† *Dupart Production des Metaux Precieux en Mexique*, p. 373.

‡ Next to the precious metals this article is the principal object of exportation. Vanilla, sarsaparilla, and jalap, of which Mexico produces great quantities, were exported to the amount of 40,000‡. Indigo was exported to a somewhat greater amount; but it came almost entirely from Guatimala, in Central America. Dying woods might give rise to considerable freights, but they are of small value in the country. When a colony, Mexico exported flour and sugar, but has ceased to do so at present.

[*To be continued in next week's Mining Journal.*]

GAS LIGHTS.

[Continuation of the second part of the lecture, delivered by Thomas A. Hedley, Esq., at the Devonport Mechanics' Institution.]

The lecturer having shown the origin of the introduction of gas, its manufacture, application, and progress to improvement, observed, I will now proceed to show the great similarity that exists in the production of gas lights with that of all other artificial light; and for this purpose it is only necessary to state, that the combustion of gas light is essentially analagous and similar to that of tallow, wax, oil, or other material—for those substances possess, in common with coal, the elements of carbon, hydrogen, &c., and which are, by the ignition of the wick, converted into an inflammable elastic fluid or gas, and thus produce the light they yield. The capillary tubes, formed by the wick of the candle or lamp, serve only the office of the retorts and furnaces at the gas light manufactory—the wax, tallow, or oil, being drawn up by those tubes, and decomposed into carburetted or bi-carburetted hydrogen gas—on the more or less perfect combustion of which, depends the amount of illuminating property they will yield. In the lamp, as in the candle, the oil or tallow must be first decomposed, or formed into gas, before it can produce light; and it is by this decomposition and formation into gas (and a most beautiful and natural principle it is), that oils and candles are made to produce flame, and that, too, in a continuous succession—thus, Phœnix-like, feeding itself by that on which it exists. The sole difference, therefore, between the larger process of the gas light manufacture, and the more miniature one of the candle or lamp, consists in having in the one case the distillatory process of the gas performed at the gas manufactory, where it is thoroughly discharged of all its impurities; whilst that of the other—the decomposition of the candle or oil of the lamp—is performed on the table, or in the room where it is consumed—and that, too, in its totally unpurified state—rendering the first by far a more cleanly, inoffensive, and convenient mode of obtaining artificial light; and this ought to be more generally known, when it would, doubtlessly, be more properly and extensively appreciated. Besides these, gas has many other and great advantages over that produced from oil, wax, or tallow. It requires no trouble or preparation on the part of the consumer; it gives its light at command, can be diminished or increased at pleasure, exactly as circumstances require, and is withdrawn, as by a magician's wand, when no longer required. It is, moreover, much safer—it emits no sparks, as in candles or lamps, particularly when trimming, snuffing, or extinguishing—creates no dirt—and, being generally fixed lights, cannot be carried from place to place, and set down in dangerous places. Gas can, however, be made to be, in many ways, almost as convenient in this respect, without the danger, as candles or oil, though free from the main objection—as it can be, if wished, moved at pleasure from place to place by means of flexible tubes and other contrivances, without, however, the risk of its being done carelessly or thoughtlessly.*

Many persons have been deterred from the use of gas, conceiving that its peculiar odour, and which it gives out whenever it escapes, is an inherent and necessary quality of it: this, however, will be found, on examination and consideration, not to be correct; but, in reality, is one of its merits, as affording a great safeguard in its general use. All carburetted hydrogen gas (the gas we have shown that produces light), whether obtained from oil, tallow, or coals, chemically speaking, has this peculiar odour—it is an attribute of it; without it, as in the case of hydrogen gas, for example, which is nearly inodorous, there would be, alike, no light and no smell; and to put this more forcibly, I would ask, what can be worse than the effluvia from an overturned-up wick of a lamp, or that of a recently extinguished candle? Both these proceed from carburetted hydrogen gas, and the unremoved impurities of the material from which it is obtained in combination with it. Whereas gas undergoes, as before observed, a high state of purification at the manufactory; and in combustion, most certainly, in this state, gives out much less obnoxious and offensive matter than either oils, wax, or tallow.

The real cause of the unpleasant smell from the use of gas arises from the fittings, as they are called, not being properly done, and which again arises entirely from inattention on the part of the workman employed—as where these fittings are properly executed, and there are not wanting innumerable instances of their being so, not the slightest smell exists.

The escape of gas, too, is the exception, not the rule: for, I can declare, that where ordinary attention has been paid to the fitting; and the burners, it never occurs. In this respect it resembles oil, or water—either of which, placed in unsound vessels, will give some idea of the inconvenience that would result; and I fearlessly assert, from several years' experience, that gas may be used in every part of a house, without occasioning the least inconvenience; for, where proper attention has been paid to this essential and really-important part of gas lighting, the greatest comfort, convenience, and economy, is obtained.

Another objection to the use of gas in private houses, is the heat evolved in its combustion; but this, like the former, is not well founded—it arises entirely, as in the case of oil lamps, to overburning, and, in common with oil or candles, to the want of proper attention to the ventilation of the room in which it is so overburnt; for, as instanced by Professor Faraday in his report, when referred to on this subject by the Athenæum Club of London, he remarks, among other things—"A house, when first built, has every care bestowed to render the floors, ceilings, windows, and doors, tight and close; the rooms are all well warmed during the day; and having been thus brought to a proper temperature and genial warmth, then, at night, a large number of persons enter, evolving, even from themselves, both heat and effluvia; powerful burners are put into action, and are continued for hours—naturally causing complaints that the heat is oppressive, and the odour unpleasant; things are arranged, so as to produce a perfect effect under one set of circumstances, and then changing the circumstances—the effect is expected to remain the same, though it must, of necessity, be different." This referred to the reading-room of the Athenæum Club, of London; but it is alike applicable to this room (the Mechanics' Institution), which may be made quite warm enough during the day, when there are only a few persons in it; but at night (he repeats) "it is lighted—many persons enter, and they of necessity feel an oppressive sensation; and there can be no doubt, that the cause of these complaints, and the complaints themselves, may be removed by simply extending and adjusting the system of ventilation."

For effecting this ventilation many plans have been proposed; the most effective one is that of "Dr. Arnott's ventilating valve;" it is placed over the chimney-piece of the room—it occupies little space—and all heat and effluvia, from whatever lights are used, are conveyed into the chimney, and from thence into the atmosphere I, some time since, fixed one of these valves in the news-room of this institution; and it has now been in action for some months, and is found in every way effective, perfect, and economical.

On this subject of "*ventilation*," however, I ought to say, it is not more requisite for gas, than for other lights; as, where gas is consumed under ordinarily favourable circumstances, the heat evolved is only in the ratio of the *light* produced; whilst the heat from the combustion of wax, oil, and tallow, is, under similar circumstances, that of equal light, rather greater than gas, arising from the greater density, or carbon, of the material used. Light for light, the heat given out by gas, is less that from either wax, oil, or tallow.

The burner in this respect is very essential; that burner being the best to use which yields the greatest quantity of light from the least expenditure of gas, or those burners requiring the least quantity of oxygen for perfect combustion, the heat being in proportion to the quantity of material used. The names of the burners, mostly in use for gas, are the 1, 2, and 3 jets, the bat's-wing, the union jet, or flat flame, fish or fan tail (a Scotch burner of much value, and due in its introduction to the talented Mr. Neilson, of Glasgow), the "ARGAND," the Wingfield, the Universal, the Bude, and, lastly, the Boccius. They are all, more or less, useful; but each varies in relative value according to the quantity of gas consumed, and the amount of light rendered, as shown in the former part of this lecture.

In treating on the proper mode of burning gas, most important at all times to be attended to, it is proper here to state, that the greatest step towards its economy and usefulness was attained by the invention of the METER—a most beautiful contrivance of the talented engineer before mentioned, SAMUEL CLEGG, Esq., carried out most perfectly and prosperously by the late Mr. Samuel Crosley. "It is an instrument so contrived," I quote from Dr. Ure's work on the *Arts, Manufactures, and Mines*, "that on being attached to a pipe, which conveys the gas from the street into a house, it measures and registers, by an index, the exact quantity of gas passing through it, and, by means of this instrument, every person can use as much, or as little, as he likes, paying only for what he uses—thus rendering science subservient to our comfort, convenience, and economy.

Another result by the use of the meter, gas companies are enabled to supply gas to all places, and under all circumstances, at a rate proportioned to their wants. By this admirable contrivance, the public are made sensible, not only of the economy of gas over candles, oil, or other material, but they gain in another and most important way. Gas companies, from being thus duly paid for their manufacture, are enabled to reduce the price—thus bringing it within the reach of a larger class of the community; and it is a well-established fact, that in towns where gas is supplied *only* by meter, gas companies are enabled to sell at nearly one-half the price of other places, where the meter is not in general use; clearly deducing, that reduction in price increases demand—increased demand increases profits—increased profits enables prices to be again reduced—, again, reduced prices increases demand; and so the minimum of price is acquired, benefitting alike all classes of the community, and the companies themselves Before the introduction of the meter, gas was obliged to be charged by a fixed scale for each light, to burn to a given hour every night; the flame was not to exceed a certain height: all encroachments on these regulations necessarily occasioned disputes alike unpleasant to company and consumer; but, by means of the meter, the consumer is relieved from all these restraints—he can use the gas when, where, and how, he pleases—he can introduce it into rooms which require to be lighted only occasionally—he can employ any description of burner best adapted to his purpose—and, when not required, he can extinguish the lights, or diminish them at pleasure—the meter thus giving him the benefit of his own convenience, care, and economy.

This meter was patented in 1814, but expired in 1828. Since that period, several persons have commenced manufacturing them; and, within the last few years, many patents have been taken out for what are called "improvements," which, however, have added little to their general usefulness or accuracy, if we except, indeed, bringing them more generally to the notice of the public. The principle on which the measuring aeriform fluids is contrived—and which, until the introduction of the gas meter, was altogether unknown—is effected by the aid of water. A drum, or wheel, within the case of the meter, is so constructed, as, when charged for action, it should remain about half full of water; this wheel, or drum, contains a number of chambers—part of which chambers being out of the water, whilst the other parts are immersed, it follows that, on every revolution of the drum—water being of greater specific gravity than gas—it displaces just that quantity of gas not occupied by the water; and by this contrivance, the exact contents of the chambers are delivered or discharged to the burners; and, from knowing the capacity of these chambers, and registering the number of revolutions of the drum, or wheel, it follows that an accurate account of the true quantity of gas passed, can, by attaching a registering index to the instrument, be correctly and readily ascertained. Some objections, however, were very early in gas lighting made to the use of this instrument, beautiful as it is—arising from the circumstance of its being partially filled with WATER; from this it acquired the name of the "*wet*" or "*water*" meter. Now, as regards these objections, we all know that water freezes when below a certain temperature—we all know, too, that at a certain other temperature, water evaporates, and, in that condition, yields vapour; this vapour, becoming cooled, condenses in the conduit or service pipes, and causes occasionally some inconvenience, and, also, though in a very minute degree, some derangement in the real and mathematically correct measurement of the gas passing through it, so long as this condition exists—a proper provision, however, being made in the machine for remedying it immediately and readily. To remedy these objections against the "water" meter, and which, in reality, only existed where the meter was placed in an improper situation, several ingenious contrivances have been resorted to, by which the measuring of gas should be accomplished without the aid of water; and the result of these contrivances and inventions has given rise to what is called the "DRY" meter—a term used to distinguish it from the other; or, as may be said, to place it more immediately in juxta-position with its compeer—the "wet," or "water," meter. To the respective merits of these later inventions I will proceed to allude, and I will mention them in the order of their introduction to the knowledge of the public.

* The lecturer here exhibited some of these flexible tubes, and moved his light on and off the table frequently, whilst in the act, too, of burning the gas.

[*To be concluded in next week's Mining Journal.*]

AVENTURINE GLASS.—This costly and beautiful sort of glass, used for ornamenting objects of art and *vertu*, could not be hitherto made but at Venice. Only so much was known, that very minute crystals of metallic copper of great lustre, which, mixed throughout the mass of dark reddish-yellow glass, imparted to this substance that lustrous and iridescent appearance for which it was so much prized. Messrs. Fremy and Calendeau have lately laid before the French Institute their process for making this valuable substance. It consists of mixing powdered glass with hammerslag (black oxide of iron, or scales from the forge) and oxide of copper, and keeping the whole for a considerable time in a state of fusion. By these means the copper crystallizes in the glowing mass of glass in the shape of small octahedra, which, being disposed through the mass, impart to it a beautiful scintillating appearance. Still, the original Venetian samples, and those made by Messrs. Fremy and Calendeau, were not of equal quality—the mass of glass wherein the crystals are embedded being, in the former case, clear and pellucid; in the latter, rather soiled, and barely transparent. The crystals in the Venetian are large and very regular: in the French, small, irregular, and fibrous. The principle, however, is discovered; and it will only require (as with everything else) time and experience to equal the Venetian patterns. This information may be useful to our new unshackled manufacturers.

BELGIAN RAILWAYS AMALGAMATION.

—At a numerous and highly respectable MEETING of proprietors of shares in the various Belgian Railways, holden at the London Tavern, on Saturday, the 16th day of January, 1847 pursuant to public advertisement, for the purpose of considering the expediency of amalgamation,

JOHN MASTERMAN, Jun., Esq., in the chair,

It was resolved, with only two dissentients—

1. That this meeting, having seen, in numerous instances, the great advantages that have resulted from the amalgamation of English lines, is extremely desirous that the same principle should be extended to the Belgian companies.

2. That, with a view of ascertaining the practicability of such amalgamation between the Great Luxembourg, the Louvain à la Sambre, the Belgian Eastern Junction, the Namur and Liege, and the Sambre and Meuse Companies, the directors of each company be requested to name a deputation of two of their members to confer upon the subject, and to report to a future meeting the best mode of carrying the same into effect.

3. Unanimously,—That the thanks of the meeting are hereby given to John Masterman, jun., Esq., the chairman, for the lucid statements submitted by him to the meeting, and for his able and impartial conduct in the chair.

TILSON, SQUANCE, CLARKE, & MORICE,
29, Coleman-street.

BIRMINGHAM, WOLVERHAMPTON, AND DUDLEY RAILWAY

—FIRST CALL of TWO POUNDS EIGHTEEN SHILLINGS per share.

The directors having passed a resolution, making a CALL upon the shareholders of TWO POUNDS EIGHTEEN SHILLINGS on each share held by them respectively—such call to be paid on the 10th day of February, 1847—the shareholders are hereby required to pay such call, on or before the day appointed, to one of the under-mentioned bankers; and in default thereof they will be charged with interest, at the rate of 5 per cent. per annum, from that day until the said call be actually paid.

The Birmingham Banking Company, Birmingham; Messrs. Attwoods, Spooner, and Co., Birmingham; or at their London Agents, Messrs. Jones, Loyd, and Co., for the Birmingham Banking Company; Messrs. Spooner, Attwood, and Co., for Messrs. Attwood's and Co.; and Messrs. Moss and Co., Liverpool, for the Birmingham Banking Company.

A circular will be sent to each shareholder, which must be deposited at the bankers when the call is made.

By order of the board of directors,
JOHN WM. KIRSHAW, Secretary.

34, Bennett's-hill, Birmingham, Jan. 15, 1847.

CAMERON'S COALBROOK STEAM COAL AND SWANSEA AND LOUGHOR RAILWAY COMPANY.

OFFICES, 2, MOORGATE-STREET, LONDON.

Notice is hereby given, that a DIVIDEND, at the rate of 12½ per cent. per annum (free of income tax), for the half-year ending 31st December last, will be PAYABLE to the proprietors, at the company's offices here, on and after Wednesday, the 3d Feb. next.

By order of the directors,
A. C. HOWDEN, Secretary.

January 20, 1847.

MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE RAILWAY.

TENDERS FOR RAILWAY TRUCKS.

The directors will meet at their office, in Sheffield, on Wednesday, the 10th February, at Twelve o'clock, to RECEIVE TENDERS for the SUPPLY of RAILWAY TRUCKS.

Further particulars may be obtained at Mr. Fowler's offices, 13, Abingdon-street, Westminster.—Sheffield, Jan. 9, 1847.

MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE RAILWAY.—GREAT GRIMSBY AND SHEFFIELD JUNCTION RAILWAY.

TENDERS FOR SLEEPERS.

The directors will meet at their office, in Sheffield, on Wednesday, the 10th February, at Twelve o'clock, to RECEIVE TENDERS for the SUPPLY of RAILWAY SLEEPERS.

Further particulars may be obtained on application at Mr. Fowler's offices, 13, Abingdon-street, Westminster.—Sheffield, Jan. 8, 1847.

MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE RAILWAY.—SHEFFIELD AND LINCOLNSHIRE JUNCTION RAILWAY.

TENDERS FOR SPEEPERS.

The directors will meet at their office, in Sheffield, on Wednesday, the 10th February, at Twelve o'clock, to RECEIVE TENDERS for the SUPPLY of RAILWAY SLEEPERS.

Further particulars may be obtained on application at Mr. Fowler's offices, 13, Abingdon-street, Westminster.—Sheffield, Jan. 8, 1847.

WEST CORNWALL RAILWAY.—NOTICE OF CALL.

—FIRST CALL OF TWO POUNDS PER SHARE.—Notice is hereby given, that the directors of the WEST CORNWALL RAILWAY COMPANY have this day made a CALL of TWO POUNDS per share upon the respective shareholders in the said company, and have appointed such call to be PAID on or before Monday, the 22d February, 1847, to either of the under-mentioned bankers—that is to say—

To Messrs. Denison, Heywood, Kennards, and Co., 4, Lombard-street, London; or Messrs. Vivian, Grylls, Kendall, and Co., Helston, Cornwall.

By order of the board,
FREDERICK LE MESURIER, Secretary.

35, Broad-street-buildings, London, Jan. 20, 1847.

WEST FLANDERS RAILWAYS COMPANY.

—Notice is hereby given, that INTEREST, at the rate of 3 per cent. per annum, on the paid-up capital in this undertaking, for the half-year ending the 31st day of December, 1846, will be PAYABLE at the offices of the company on or after Friday, the 1st of January, 1847. It is necessary that the certificates for shares, "To Bearer," should be left at the office three clear days; and, when called for, a warrant for the amount of interest will be given.

WILLIAM JESSE, Secretary.

11, King William-street, Mansion-house, Dec. 23, 1846.

NORTHERN COUNTIES UNION RAILWAY COMPANY.

—At a Special General Meeting of the shareholders of this company, held at the London Tavern, Bishopsgate-street, in the city of London, on Wednesday, the 20th day of January, 1847, the following report, from the directors, was read by the secretary:—

THE DIRECTORS' REPORT.

The present meeting has been convened for two objects, as stated in the advertisement.

First.—For the purpose of taking into consideration, and approving, or otherwise, the proposed application to Parliament for the partial deviation of the line, and the amendment of the Act constituting this company.

Since the First General Ordinary Meeting of this company, your directors have turned their attention to carrying into effect the resolutions of that meeting with respect to the resurvey of the more expensive portions of your line, and for making the necessary preparations to proceed to Parliament, in the present session, for an amended Bill, according to the report adopted at that meeting.

Your directors have to state, that a resurvey of the expensive portions of your line, from Smardale Gill to Barnard Castle, has been made by Mr. Harris, the engineer to the original York and Carlisle line, with a view to diminish the cost thereof; and that, upon examination of the sections, your directors unanimously resolved not to adopt his plans and survey, on account of the severity of the gradients.

In compliance with an agreement entered into with the Liverpool, Manchester, and Newcastle-upon-Tyne Junction Railway Company, a deviation of your line has been surveyed at the point of junction with that company's line, in order to make the levels of both coincide. This deviation will improve the line, and is estimated to effect a saving of expense in constructing it.

The draft of the Deviation Bill will now be laid before you.

Your directors have the satisfaction of stating that they have entered into a further agreement with the directors of the Liverpool, Manchester, and Newcastle-upon-Tyne Junction Company, for the joint construction of the line from Carperby (the point of junction) to Wath.

Secondly,—In compliance with the requisition of the shareholders for the further taking into consideration and approving, or otherwise, certain propositions for an amalgamation of this company with the Liverpool, Manchester, and Newcastle-upon-Tyne Junction Railway Company, the terms of which your directors submit for your consideration.

Company's offices, 1, Poet's Corner, Westminster, Jan. 20, 1847.

On a motion from the Chair, and seconded by Joseph Sams, Esq.,

It was resolved—That the report now read be received, adopted, and printed for distribution among the shareholders.

On a motion from the Chair, and seconded by W. Anning, Esq.,

It was resolved—That the Bill now produced, and read to the meeting, for enabling "the Northern Counties Railway Company to make certain alterations in their railway, in the parishes of Aysgarth and Wesley, in the North Riding of the county of York," be and is hereby approved; and that the directors be requested to take the necessary steps for prosecuting the same in the present session of Parliament.

On the motion of Henry Marriott, Esq., and seconded by Thomas Carlisle, Esq.,

It was resolved—That power be given to enter into preliminary arrangements for the purpose of an amalgamation of this company with the Liverpool, Manchester, and Newcastle-upon-Tyne Junction Railway Company; and, that a deputation be appointed, consisting of the chairman and three directors, Mr. Wyvill, Mr. Collett, M.P., and Mr. Salkeld, to negotiate for that purpose, and to authorise them to conclude arrangements, and report the same to the next general meeting.

W. BERESFORD, Chairman.
C. LOCOCK WEBB, Secretary.

On a motion of Thomas Carlisle, Esq., and seconded by William M. Peacock, Esq.,

It was unanimously resolved—That the best thanks of the meeting be due, and are given, to the chairman, for his able conduct in the chair.

C. LOCOCK WEBB, Secretary.

PATENT GALVANISED IRON AND WIRE ROPE WORKS,

MILLWALL, POPLAR.

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £30, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.—Mr. J. S. Tregellas, Truro, agent for Cornwall.

SWANSEA DOCK COMPANY (Provisionally Registered).

OFFICES—QUAY-PARADE, SWANSEA, and 3, LOTHBURY, LONDON.

Capital £100,000, in 5000 shares, of £20 each.—Deposit 22s. per share.

DIRECTORS.

CHAIRMAN—Capt. EVAN MORGAN, R.A., St. Helen's, Swansea

DEPUTY-CHAIRMAN—Lieutenant-Colonel CAMERON, Dan-y-Graig, Swansea

LEWIS L. L. DILLWYN, Esq., Parkwern, Swansea
Sir ANDREW PELLETT GREEN, 9, James-street, Buckingham-gate
MICHAEL JOHN MICHAEL, Esq., Swansea
GEORGE BYNG MORRIS, Esq., Sketty Park, Swansea
Capt. ALEXANDER HAMILTON EARLE, R.A.
THOMAS WALTERS, Esq., Swansea
NATHANIEL PRYCE CAMERON, Esq., Swansea
MATTHEW MOGGRIDGE, Esq., the Willows, Swansea
WILLIAM EDMOND, Esq., Swansea
DAVID FRANCIS, Esq., Swansea
EDMUND NASH NORCOTT, R.N., Blackheath
WM. BOOTH JOSEPH PRYCE CAMERON, Esq., Dan-y-Graig

ENGINEER—Thomas Page, Esq., C.E.

BANKERS.

Messrs. Jones Loyd & Co., 43, Lothbury; Glamorganshire Banking Company, Swansea.

SOLICITORS.

Edward M. Elderton, Esq., 3, Lothbury, London.
John Trevillian Jenkin, Esq., High-street, Swansea.

PARLIAMENTARY AGENTS—Messrs. Cameron and Bain, 19, Parliament-street, London.

SECRETARY AT SWANSEA—George Grant Francis, Esq.

SECRETARY IN LONDON, pro tem.—A. C. Howden, Esq.

The Parliamentary deposit has this day been made at the Bank of England, and all the requisites enjoined by the Standing Orders fully complied with.

The remaining shares unallotted may be applied for at the company's offices here, where plans and prospectuses may be obtained; and also at James Smallbone, Esq.'s, Stock Exchange.

By order, EDWARD M. ELDERTON,
Company's Offices, 3, Lothbury, Jan. 14, 1847. Solicitor to the Company.

PATENT KAMPTULICON COMPANY.

OFFICES, 1, POPE'S HEAD-ALLEY, 18, CORNHILL.

FACTORY, GREENWICH-ROAD.

Established, 1843—registered under 7 and 8 Victoria, c. 110, and to be incorporated by Act of Parliament.

Capital £50,000, to be raised by five series of shares, of £1 each, paying interest of 5 per cent. per annum, and moiety of net profits as a bonus.

The trustees having received extensive orders from the highest authorities in this kingdom, as well as from abroad—in order to execute the same with all dispatch, and extend the operations of this company—resolve to ISSUE the SECOND SERIES of £10,000 SHARES, of £1 each.

Applications for shares will be received at the office as above, where the last report and specimens may be seen until the 29th inst.

P. G. GREVILLE, Secretary.

IMPORTANT TO RAILWAY COMPANIES.

PATENT KAMPTULICON COMPANY, 18, CORNHILL.

This company having completed their new factory, are prepared to supply railway managers and contractors with an elastic material (perfectly non-absorbent) to place between the rails and sleepers, and between the frames and bodies of carriages, to prevent jarring, and, consequently, wear and tear. The elastic planking is strongly recommended to be used for the backs and sides of carriages, to prevent splinters when accidents occur.

By order of the board, P. G. GREVILLE, Secretary.

THE PROJECTED RAILWAYS.

PATENT METALLIC SAND OR ENGLISH POZZOLANO.

—The PROPRIETORS of the METALLIC SAND, after many years' experience of its merits, confidently RECOMMEND it to the attention of Engineers, Architects, Builders, and the public generally, as an invaluable article for HYDRAULIC and OTHER WORKS requiring great strength and durability.

In analysis, the metallic sand is very similar to the Italian Pozzolano—the value of which, in all subaqueous works, is so well known to engineers and architects; but from its granular form, and the sharpness of its angles, and the increased quantity of iron it contains, the metallic sand has been found more durable, and much cheaper than any other similar material at present in use.

From its chemical qualities it forms, in admixture with lime and common sand, a cement, mortar, or concrete, of flinty hardness, and almost entire incompressibility; and from its adhesive and impervious qualities, it completely and for ever excludes water. The more it is exposed to the atmosphere, and to wet and damp, the harder and more durable it becomes. In the formation of mortar and concrete, it has been extensively used in the great tunnels on the London and Birmingham Railway, in the foundations of the New Houses of Parliament, sea walls on the North Devon Railway, Clifton Reservoirs, and other works of importance.

As an external stucco, the metallic sand cement is unaffected by frost or wet; in appearance it resembles the best Portland stone; requires, therefore, neither colour nor paint, and is entirely free from vegetative cracks and blisters, to which Roman cement is liable.

Further information will be given, and specimens shown, on application to Mr. C. K. Dyer, 4, New Broad-street; and at the Metallic Cement Wharf, King's Road (opposite Pratt-street), Camden New Town, London.

ANALYSIS OF THE PATENT METALLIC SAND.

Silica	49	Lime	6
Oxide of iron	32	Magnesia	2
Alumina	6	Zinc	3
Arsenic and carbonate of copper	2		

RAILWAY SHARES AND BUILDING SOCIETIES.

This day, price 1s.,

RAILWAYS FOR THE MANY AND NOT FOR THE FEW: OR, HOW TO MAKE THEM PROFITABLE TO ALL.

BY JAMES WARD, Esq.

Second Edition, enlarged, with some Remarks on Building and other Benefit Societies.

London: Smith, Elder, and Co., 65, Cornhill.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES, AND CLOCKS.

—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

LEGAL AND GENERAL LIFE ASSURANCE SOCIETY,

No. 10, FLEET-STREET, LONDON.

ESTABLISHED 1836.

The ATTENTION OF THE PUBLIC, and particularly of persons contemplating assurance, is invited to the several NEW and IMPORTANT IMPROVEMENTS which have been now adopted by this society, at the termination of the first decennial period from its establishment. Among other advantages now, for the first time, offered by the directors of this society are these:—

1. Persons assuring their lives in this office may, without payment of any extra premium, reside in New South Wales, Cape of Good Hope, Canada, Northern States of North America, and in any place distant more than 33° from the Equator, and may also, without any extra charge, pass by sea between any two places in the same hemisphere distant more than 33° from the Equator.

2. The charging of low rates of extra premium for permission to go to the East Indies, the West Indies, or to any place distant less than 33° from the Equator.

3. The maintaining of the policy in force when the person whose life is assured goes out of the limits allowed, provided that the requisite additional premium be paid as soon as the fact of such departure becomes known to the parties interested in the policy.

4. Persons who have appeared before the examining medical officers of the society are not required to appear also before the board of directors. The amounts assured by policies will be paid in all cases of death by duelling or by the hands of justice. In case of suicide, when the person whose life is assured is also the party who is entitled to the benefits of the policy, the whole of the premiums received will be returned. Notices of assignment of policies will be acknowledged.

The advantages announced above are not restricted in their application to policies hereafter to be issued, but are extended to all policies now subsisting.

The persons assured by this society are entitled to receive four-fifths of the profits. The first division will take effect at the present time (31st Dec., 1846)—the result of such division will be very shortly declared. The future period of division will not exceed seven years. No admission or entrance fees are required.

Medical officers for the examination of lives proposed for assurance, are in attendance at the office every Tuesday and Friday at 2 o'clock.

December 31, 1846. By order of the board, T. R. EDMONDS, Actuary.

EUROPEAN LIFE INSURANCE & ANNUITY COMPANY.

ESTABLISHED JANUARY 1, 1819.

Empowered by special Act of Parliament, 7 and 8 Victoria, cap. xlviii.

OFFICES—No. 10, CHATHAM-PLACE, BLACKFRIARS, LONDON; and No. 53, DAME-STREET, DUBLIN.

JOHN ELLIOT DRINKWATER BETHUNE, Esq., Chairman.

Insurances may be effected daily on the ascending or descending scale—a limited number of annual payments, by even annual, half-yearly, or quarterly payments, or by payment of half the usual annual premium for five or seven years.

Parties effecting insurances on their lives for £500, or upwards, are privileged to attend and vote at the half-yearly general courts.

CHARLES SAUNDERSON, Sec.

TO ENGINEERS AND BOILER-MAKERS.

LAP-WELDED IRON TUBES FOR STEAM-BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY,
42, *CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE,*

MANUFACTURE TUBES under an exclusive license from Mr. Richard Prosser, the patentee. These tubes are now very extensively used in the boilers of marine and locomotive steam-engines in England and on the continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and warranted not to open in the weld. They may be fixed in the boilers without ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham.

LONDON WAREHOUSE,
68, *UPPER THAMES-STREET.*

TO ENGINEERS, BOILER-MAKERS, AND OTHERS.—LAP-WELDED IRON TUBES, FOR STEAM-BOILERS.

W. H. RICHARDSON, JUN., & CO., DARLASTON, *STAFFORDSHIRE,*

MANUFACTURE all DESCRIPTIONS of WELDED WROUGHT-IRON TUBES, for STEAM, GAS, &c., of any required length and diameter, on the new and unequalled principle of Mr. J. Roose's recent invention (patented August, 1846).—Address as above.

NATIONAL LOAN FUND LIFE ASSURANCE SOCIETY.

26, *CORNHILL, LONDON.*

Capital £500,000.—Empowered by Act of Parliament.

This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premiums paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences or necessity.

Assurances for terms of years are granted on the lowest possible rates.

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age.	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
60	£1000	£6 3 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
			1838	192 3 0	87 1 4	13 10 2	395 11 1
			1839	165 11 10	74 1 9	11 3 1	346 2 3
			1840	116 7 6	54 0 10	7 19 10	256 13 4
			1841	111 6 8	49 10 0	7 19 4	247 4 5

The division of profits is annual, and the next will be made in December of the present year.

F. FERGUSON CAMBOUX, Secretary.

Copy of a Letter from "COLONEL HAWKER" (the well-known author on "GUNS AND SHOOTING")

Longparish House, near Whitchurch, Hants, Oct. 21, 1846.

SIR,—I cannot resist informing you of the extraordinary effect that I have experienced by taking only a few of your LOZENGES. I had a cough, for several weeks, that defied all that had been prescribed for me; and yet I got completely rid of it by taking about half a small box of your Lozenges, which I find are the only ones that relieve the cough without deranging the stomach or digestive organs.—I am, Sir, your humble servant,

To Mr. Keating, &c., 79, St. Paul's Churchyard. P. HAWKER.

KEATING'S COUGH LOZENGES are PATRONISED also by his Majesty the King of Prussia, his Majesty the King of Hanover, and most of the Nobility and Clergy of the United Kingdom, and are especially recommended by the Faculty.

RECENT TESTIMONIAL.

DEAR SIR,—Having been, for a considerable time during the winter, afflicted with a violent cough, particularly at lying down in bed, which continued for several hours incessantly, and after trying many medicines without the slightest effect, I was induced to try your Lozenges; and, by taking about half a box of them, in less than 24 hours, the cough entirely left me, and I have been perfectly free from it ever since.

9, Claremont-terrace, Pentonville, I am, dear Sir, yours, very respectfully,
Feb. 17, 1845. JAMES ELLIS.

Mr. KEATING. (Late proprietor of the Chapter Coffee-house, St Paul's.)

Prepared and sold in boxes, 1s. 1½d., and tins, 2s. 9d., 4s. 6d., and 10s. 6d. each, by T. Keating, chemist, &c., No. 79, St. Paul's Churchyard, London; and retail by all druggists and patent medicine venders in the kingdom.

N.B.—To prevent spurious imitations please to observe that the words "KEATING'S COUGH LOZENGES" are engraven on the Government stamp of each box.

NOTICE.—These Lozenges contain no opium, or any preparation of that drug.

ON THE SECRET INFIRMITIES OF YOUTH AND MATURITY.

With 25 coloured engravings.

Just published, sixteenth thousand (in a sealed envelope), price 2s. 6d.; or post-paid to any address, for 3s. 6d., in postage stamps, or Post-office order,

SELF-PRESERVATION: A Medical Treatise, on Marriage, and on the Secret Infirmities and Disorders of Youth and Maturity.

Illustrated with 25 coloured plates on the anatomy, physiology, and diseases of the urinary and reproductive organs, explaining their various structures, uses, and functions, and the injuries that are produced in them, by solitary habits and other excesses. With practical observations on the treatment of nervous debility, local and constitutional weakness, syphilis, stricture, and other diseases of the urethra. By SAMUEL LA'MERT, consulting surgeon, 9, Bedford-street, Bedford-square, London, Matriculated Member of the University of Edinburgh, Honorary Member of the London Hospital Medical Society, Licentiate of Apothecaries' Hall, London, &c.

REVIEWS OF THE WORK.

"The author of this singular and talented work is a legally qualified medical man, who has evidently had considerable experience in the treatment of the various disorders, arising from the follies and frailties of early indiscretion. The engravings are an invaluable addition, by demonstrating the consequences of excesses, which must act as a salutary warning to youth and maturity, and by its perusal, many questions may be satisfactorily replied to, that admit of no appeal, even to the most confidential friend."—*Era.*

Published by the author; and may be had at his residence; also from S. Gilbert, 52, Paternoster-row; Hannay and Co., 63, Oxford-street; Starie, 23, Tichborne-street, Quadrant; Gordon, 146, Leadenhall-street, London; Newton, 16, Church-street, Liverpool; and all booksellers.

At home for consultation daily, from nine till two, and from five till eight; and all letters, immediately replied to, if containing the fee of £1, for advice, &c.—9, Bedford-street, Bedford-square, London.

CURTIS ON NERVOUS AND GENERATIVE DISEASES.

Just published, a Medical Work, in a sealed envelope, 2s., and sent, post-paid, for 3s. 6d.

MANHOOD: the CAUSES of its PREMATURE DECLINE,

with plain directions for its perfect restoration; addressed to those suffering from nervous debility or mental irritation, followed by observations on Marriage; the treatment of diseases of the generative system; illustrated with cases, &c. By J. L. CURTIS and Co., consulting surgeons, 7, Frith-street, Soho-square, London.

TWENTY-NINTH THOUSAND.

Published by the authors, and may be had at their residence; also sold by Strange, 21, Paternoster-row, London; Guest, 51, Bull-street, Birmingham; T. Bowler, 4, St. Ann's-square, Manchester; G. Phillip, South Castle-street, Liverpool; W. and H. Robinson, booksellers, Greenside-street, Edinburgh; Campbell, druggist, Argyll-street, Glasgow; and sold in a sealed envelope by all booksellers.

REVIEWS OF THE WORK.

MANHOOD. By J. L. CURTIS and Co. (Strange)—In this age of pretension, when the privileges of the true are constantly usurped by the false and fraudulent, it is difficult to afford the sufferer from nervous debility, the unerring means of judgment where to seek relief. The authors of this work have obviated the difficulty. Their long experience and reputation in the treatment of these painful diseases is the patient's guarantee, and well deserves for the work its immense circulation.—*Era.*

CURTIS ON MANHOOD (Strange).—A perusal of this work will easily distinguish its talented authors from the host of medical writers whose pretensions to cure all diseases are daily so indecently thrust before the public. Its originality is apparent, and its perusal breathes consolation and hope to the mind of the patient.—*Naval and Military Gazette.*

CURTIS ON MANHOOD should be in the hands of youth and old age. It is a medical publication, ably written, and developes the treatment of a class of painful maladies which has too long been the prey of the illiterate and designing.—*United Service Gazette.*

Messrs. Curtis and Co. are to be consulted daily at their residence, No. 7, Frith-street Soho-square, London.

Country Patients are requested to be as minute as possible in the detail of their cases. The communication must be accompanied by the usual consultation fee of £1, and the work sent to any address for 3s. 6d. in postage stamps, direct from the authors, or either of the above agents.

The Nineteenth Edition, price 2s. 6d.; free by post, 3s. 6d.

THE SILENT FRIEND: a medical work, on the concealed causes of constitutional or acquired debility, loss of muscular energy, and derangement of the generative system, nervous debility, constitutional weakness, excessive indulgence, &c.; with Observations on Marriage, &c. By R. and L. PERRY and Co., surgeons, London. Published by the authors, and sold at their residence; also by Strange, 21, Paternoster-row; Hannay & Co., 63, Oxford-street; Noble, 109, Chancery-lane; Cordeux, 146, Leadenhall-street; Purkiss, Compton-street, Soho, London.

Part I. of this work is addressed to those who are prevented from forming a matrimonial alliance, and will be found as available introduction to the means of perfect and secret restoration to manhood.—Part II. treats upon those forms of diseases, either in their primary or secondary state, arising from infection—showing how numbers neglect to obtain competent medical aid, entail upon themselves years of misery and suffering.

The CORDIAL BALM of SYRIACUM is a stimulant and renovator in all cases of constitutional or acquired debility; by its use the whole system becomes restored to a healthy state of organisation. Sold in bottles, price 11s. and 22s.

THE CONCENTRATED DETERSIVE ESSENCE.—An anti-syphilitic remedy; searching out and purifying the blood from venereal contamination, scurvy, blotches on the head, face, and body, ulcerations, and those painful affections arising from improper treatment, or the effects of mercury, or secondary symptoms. Price 11s. and 33s. per bottle; also £5 cases.

PERRY'S PURIFYING SPECIFIC PILLS are perfectly free from mercury, capsiva, and other deleterious drugs, and may be taken with safety without interference with or loss of time from business, and may be relied upon in every instance. Sold in boxes, at 2s. 9d., 4s. 6d., and 11s. each, by all medicine vendors—of whom may be had the *Silent Friend.*—Messrs. R. and L. Perry and Co. may be consulted at No. 19, Berners-street, Oxford-street, London, daily.

PRICE THREEPENCE.

THE DAILY NEWS,

London Morning Newspaper, in Time for the Morning Mails.

It is remarkable, that, more than a century since, there were *eighteen* papers published in London, daily, or three times a-week—while now there are only *fifteen!* In the city of New York, more daily papers are published than in all England, Scotland, and Ireland, put together. What is the cause?—PRICE!

That the public know the advantage of having a daily paper is manifest, from the thousands who pay threepence for a paper the day after publication. What, then, are the causes which maintain the high price? First, the capital required to be invested. Next, the various talent, knowledge, and experience, which must combine to produce the result. The number of the requirements have, in truth, occasioned something very like a monopoly—and monopoly always commands its own price. Thus, whilst capital and competition had been doing good service in all other things, nothing had been attempted for the political and social wants of three great nations; and a daily London newspaper remained, until the establishment of the "DAILY NEWS," a costly luxury, in which only the wealthy could indulge.

The "DAILY NEWS" looks for support, not to a comparatively few readers at a high price, but to many at a low price.

The "DAILY NEWS" is the same size as all other journals were within seven years; it is larger than many of the high-priced daily journals are now; and, in every particular of interest, it contains as much information as the most successful amongst its contemporaries. The *Daily News* is expensive, and double sheets are given whenever news, important debates, or advertisements, require it.

Every news agent will, we hope, supply the paper, by post, at Threepence, where payment is made in advance; when credit is given, it is a matter of private arrangement, with which the proprietors have nothing to do. As, however, in an undertaking so bold, it is advisable to guard against possible inconvenience, the proprietors will undertake to get all persons supplied who shall forward a Post-office order, made payable to Joseph Smith, *Daily News* Office, Whitefriars, London, at the rate of 19s. 6d. for every three months.

AN EVENING EDITION, UNDER THE TITLE OF

THE EXPRESS,

is published every day at Four o'clock, containing full reports of the markets of the day. *Daily News* Office, Whitefriars, Fleet-street, London.

London:—Printed and Published, weekly, by HENRY ENGLISH, at the Office, No. 26, FLEET-STREET, in the city of London, where all Communications and Advertisements are requested to be forwarded—addressed to "the Editor"—post-paid. January 23, 1847.